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# The Journal of the Iowa State Medical Society

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# The Journal of the Iowa State Medical Society

VOL. XII

DES MOINES, IOWA, JANUARY 15, 1922

No. 1

## THE PASSING OF THE MEDICAL PRACTITIONER\*

C. P. HOWARD, A.B., M.D., Iowa City

Why your program committee inflicted me upon you to deliver the oration in medicine, I confess I am at a loss to understand. However, that may be, I must follow the example of my betters and express the usual formal thanks for the honor they have done me. Laying no claim to oratory, I must ask you to nevertheless pardon them, for I feel they had the best intentions in the world and meant no harm to you. Indeed I am sure they meant it for my good, though like most "good intentions" they are very disagreeable for the victim.

Medical teachers have a bad habit of being too dogmatic, and too fond of laying down the law. "Mea culpa" I must cry from the bottom of my pedagogic heart. However, having warned you of my tendencies, and having assumed your kind forbearance, I will proceed with my task.

The twelve months that have elapsed since our last annual meeting have been marked by a gradual return to more normal peace conditions, at least in the United States of America.

At first thought it has been a hopelessly dull uneventful year in the medical world of America. Yet has it? At no time in my twenty years of practice has there been such a "Revival of Publication," if not of learning as in this period. Two new systems of medicine have appeared, each one, no doubt, of great merit and including among its contributors the active medical minds of America, and Great Britain. Perhaps one would have sufficed from the publishers standpoint, but from the readers' there is surely an advantage in having this abundance of riches. I feel that perhaps of greater value is the appearance of several new journals edited and published in this country. The Archives of Neurology and Psychiatry following late on the heels of the Archives of Internal Medicine, and the American Journal of Diseases of Children, had more than fulfilled the

high expectations of its distinguished editorial staff, and prepared a warm welcome on the part of the medical public for the Archives of Surgery, the American Journal of Syphilis and the Archives of Dermatology and Syphilology.

The two systems of medicine, we must confess, are not pure American products, but are partly British and partly American and serve as but another example of the closer union and better understanding that have developed in these two great countries between the members of the medical profession at least, as a result of the Great War. This, I take it is of good augury for the future. I look forward to the day which is now fast approaching (if not already here) when the British graduate student will perforce come to this country to spend his "Wander-Jahr" at our various medical centers. Why should not a definite program of such courses be arranged by the Association of the American Medical Colleges, and published in syllabus form, as was formerly done in Germany and Austria.

As many of you know, some of the leading British and American medical teachers have collected money for an American hospital in London and I believe are planning to make use of the marvelously rich clinical material of the great British metropolis. Lane, Rolleston and Bland-Sutton are the British, while Crile, the two Mayos, Ochsner, Matas and Martin are the American members of the council. Think of the golden opportunity of listening to such clinicians as Clifford Allbutt, Humphrey Rolleston, Rose Bradford, Archibald Garrod, Norman Moore, Byron Bramwell, Parkes Weber, Hale White and of comparing their methods with those of our leaders, Frank Billings, James Herrick, George Dock, Lewellys Barker, Sydney Thayer, Henry Christian, Thomas McCrae, Warfield Longcope, Emanuel Libman, to mention only a few of the various teachers of international fame.

Though the past year did not see a return of the influenza itself, we have been visited again by one of its "grizzley sisters," or better perhaps companions, as they are not in all probability blood relatives. I refer to the "epidemic encephal-

\*Presented before the Seventieth Annual Session Iowa State Medical Society, Des Moines, Iowa, May 11, 12, 13, 1921.



itis" or what was first called encephalitis lethargica. This has been quite troublesome in certain localities of the state, though I and the other members of my staff have seen only some dozen cases this year. While we were certain of its infectious nature, its contagiousness was at first thought only comparable to that of its first cousin poliomyelitis. Yet quite recently Claude and de Laulerie<sup>1</sup> report two cases who acquired the disease from contact in a hospital ward with convalescent cases of the disease, while Roger and Blanchard<sup>2</sup> studied two recruits from the same barrack who were simultaneously attacked. Again the Local Government Board of England reported an epidemic in one institution in which twelve of twenty-one inmates were affected. In discussing this question Netter admits to a history of contagion in 4.6 per cent of his patients.

Some claims have been made for a specific organism by various workers; that "jack of all diseases,"—the streptococcus naturally coming in for its share of accusers, among others, S. J. House<sup>3</sup>. However, as in poliomyelitis it is probably a mere accident, and the true cause of the disease is believed by the majority to belong to the class of filtrable viruses. In any event the Berkfeld filtrates from the emulsified brain and cord and even from the nasal mucosa, blood and spinal fluid of human patients when introduced into the brain, peritoneum, or nasal cavities of monkeys, rabbits and guinea pigs have reproduced the disease picture. (Levaditi,<sup>4</sup> Ottolenghi,<sup>5</sup> McIntosh,<sup>6</sup> Loewe and Strauss<sup>7</sup>, Thalhimer<sup>8</sup>.) The practical value of this work is claimed by Loewe and Strauss<sup>9</sup>, who found that the nasopharyngeal washings from cases of suspected encephalitis reproduced the disease in rabbits when injected intracranially in eleven out of fourteen cases or 78 per cent; further that cultures of the spinal fluid on special media have been positive in ten out of twenty cases (50 per cent).

Much more widespread has been the epidemic of Variola, both in this state and throughout the Middle West. Dr. Don M. Griswold of the Division of Hygiene and Preventative Medicine of the College of Medicine informs me that during the first three months of 1921 there were 2545 cases reported in Iowa and that if this rate persists it will mean 10,000 cases for the calendar year. This is an even higher rate than for 1920 which was nearly double that of former years where preventative medicine had become lax. This is the case in some of the European countries. In one province of Spain there were 300 cases reported with the high mortality of 44. The Statistical Bulletin of the Metropolitan Life

Insurance Company, January, 1921, gives the figures for five years in twenty of the states to "show the increasing prevalence of the disease since the anti-vaccinationists began to intensify their campaign." I do not want to preach or criticize, but I cannot refrain from asking have we forgotten the lessons of the past century or even the wonderful lesson of the vaccinated armies of the World War? The older practitioners must surely recall the days of the confluent small-pox in this country and the younger ones must have acquired some faith in the army vaccination regulations; so that young and old should know better. Why should the public be allowed to grow up as an unvaccinated generation only to be visited at some no distant period by this dreadful, dangerous and disfiguring disease, which is already gradually regaining its virulence lost through its former years of struggle to keep alive in a soil rendered unsuitable by repeated vaccination? Are we blameless? Have we not, as health officers, school physicians and family practitioners, winked at the laxity of the public, who in their ignorance advance all sorts of specious arguments against this simple rule of preventive medicine? Then when the horse is stolen, we do not even lock the stable door! The rules of quarantine, infraction of which is a civil misdemeanor are travestied. I will not shame you with recounting all of my experiences in the last few years. I cannot refrain, however, from telling you of the most culpable action of two practitioners that occurred quite recently. A young girl had been exposed to a case of small-pox and was promptly vaccinated by the authorities and quarantined. One week went by when the girl developed malaise, headache and fever; the physician in attendance telephoned the girl's father who was also a physician that his daughter was sick but whether with small-pox or local vaccinia, he was unable as yet to say. A request was promptly sent in by the father to send her home, as if it were merely local vaccinia, it would be all right, while if it were variola, he could take care of her. Yes, but what of the traveling public, to say nothing of her home community? Had they no rights? I regret to report the attending physician let her go! What happened as a result of this, I am glad to say history does not relate. If their excuse was ignorance, a loss of their license should follow, if carelessness some fine or imprisonment.

Let us not forget that typhus fever is still prevalent in central Europe and some of it is bound to be imported into this country and may reach us even in Iowa within the next few months.



The introduction of various methods of clinical laboratory diagnosis has done more to place the medical art among the sciences. The majority of us in this association have had the good fortune to see each year marked by some new method of diagnosis, bacteriological, serological, chemical, electrical or physical. Some have been of enormous value, some of doubtful value, and some of no value at all. The former have come to stay, the second will survive for a few years more, and the latter are dropped almost immediately. This is the history of every science. We must remember that our fathers did not have these advantages and had to use other means to make a correct diagnosis. What were these? A long and careful history of the family, and the patient, a long and detailed examination of the patient himself. What resulted? A category of symptoms and physical signs. The next step was to separate the wheat from the chaff, the unimportant symptom from the important, the valuable physical sign from the valueless. This was the difficulty and always required keen insight, cool judgment and experience. However, the Sydenhams, the Jonathan Hutchinsons, the Austin Flints, the Theodore Janeways and the William Oslers and a host of others whom you and I could name, were able to make astoundingly accurate diagnoses and to treat their patients with great success by eyeing askance the unimportant and superfluous and emphasizing the entire clinical picture. It was the sum total that counted, not one positive symptom or sign. With the introduction of elaborate examinations of the urine, the blood, the gastric contents and the spinal fluid, a great advance was made and diagnoses correspondingly improved. This is a platitude you say, but the danger was there in its embryonic state. Yet because these methods were applied by the physician himself or his young assistant, the results were properly correlated by the practitioner, surgeon or internist. He would say, the history of pain, nausea, vomiting and slight fever and the physical signs of tenderness and muscle spasm speak for an acute appendix. I can afford to neglect the absence of a leucocytosis. I will operate because experience has taught me that it is more probable that the history and a majority of the physical signs are more valuable than the little understood mechanism of immunity as represented by a leucocytosis. Again the physician repeatedly concluded that the family history, the previous and present history of the patient together with certain well recognized physical signs suffice to make a hard and fast diagnosis of pulmonary tuberculosis without the presence of tubercle bacilli in the sputum or a positive tuberculin test.

Were not these methods of reasoning more correct and safer than the methods which are becoming the common practice of many today? Oh, you have a pain in the belly. You have a leucocytosis and that means infection. Q. E. D. you have an appendicitis and you must be operated upon. What about diseases of the lungs, the pleura, the kidney and indeed such general infections as influenza, which have abdominal pain as a minor symptom, and may have other and better means of treatment than exploratory incision of the abdomen.

The practitioner of today, all too often, says to a patient complaining of cough, sputum, and some malaise—collect your sputum and we will send it to the laboratory and I will let you know in a few days whether you have tuberculosis or not. If a negative report is received how much valuable time is lost which could be saved by careful and repeated examination of the lungs by the older methods of inspection, palpation, percussion and auscultation. Then comes a new method, the tuberculin test, (cutaneous, intradermal or subcutaneous) which is at first regarded by many as the last court of appeal. It has taken almost twenty years for a partial realization that a positive or a negative tuberculin test in itself is of no more value than the absence or presence of any one of the other symptoms or signs of the disease. Finally the skiagram is touted as the short cut to diagnosis of pulmonary tuberculosis, and we are being lead by the nose by technicians and enthusiastic actinographers who are quite prepared to make a diagnosis of phthisis upon the finding of an increase in the hilus shadow or some fan-shaped opacity in the periphery of the lung. Would that such prophets know more about the morbid anatomy of phthisis, anthracosis, pneumonia, thickened pleura, etc., before they become so dogmatic. Have you ever stopped to consider that a lagging movement of the chest wall, a diminution of the tactile fremitus, an impairment of the percussion note, a change in the respiratory murmur, are four means of estimating alterations in the transmission of sound waves, while the x-ray plate reveals by one method only some interference with the light waves? Important as this latter information is, it should not be given first place in the consideration of the case, but be placed on an equal footing with the other physical signs by the physician in charge who knows the history, the other physical findings, the results of the sputum, and tuberculin tests, and is therefore in the better position to add up the positive and negative symptoms, and to decide what the answer is. Neither the clinical laboratory, nor the x-ray room should be asked to make our diagnosis

for us, but to merely report the presence or absence of a test or a sign, which should be regarded merely as a negative or positive symptom of the disease. Let us bear this in mind or we will lose the art of percussion and auscultation and depend entirely on less constant and therefore less reliable tests.

When the various clinical laboratory tests do not accord with the history or physical findings in our patient, it should be our first duty to review the case history and repeat the physical examination with especial reference to the condition suggested by the laboratory report, and if then the history and physical findings can not be accounted for by the condition suggested by the clinical laboratory, ask for a second laboratory test. It is surprising how frequently the laboratory is wrong, much more frequently than the guileless and gullable medical profession has yet learned to appreciate. Not long ago a member of my department saw a case of paraplegia, probably due to transverse myelitis from some external pressure. The spinal fluid was collected and reported negative by one laboratory and by another that it contained tubercle bacilli. The autopsy revealed a compression myelitis due to a vertebral metastasis from a hypernephroma. How could the second laboratory have made such a mistake? Easily enough as some of us know? Acid fast bacilli which sometimes occur in the sediment of distilled water are not tubercle bacilli, as animal inoculation would have shown in this case.

Then think of the uncertainty of the Wassermann reports. We have had a three plus report from one laboratory and a negative from another although the two samples were collected from the same patient in the same syringe and kept in the same ice box until just before being read. Further, I believe the same type of antigen was used. Students of immunology know of these variations and are always trying to overcome the treacherous pit falls that beset this valuable test. They are constantly restandardizing their antigens and discussing among themselves the respective merits of the alcoholic and cholesterinized antigens, etc. You should appreciate that there is a potential element of error in this. An old case of *Tabes dorsalis* of mine has a negative serum Wassermann by one method and a three plus by another. The laboratory men are ready to object and cry "It is not the method but the man (or woman) applying it." Granted! But do we always know who it is that is deciding for the medical practitioner whether his patient has or has not active syphilis? I have seen too many men and women who have been made miserable by the report of one single positive serum Wassermann

and that in the absence of a characteristic symptomatology of syphilis. Surely a serum Wassermann is of no more value than mucous patches in the mouth, a characteristic roseola or a general adenopathy. It should be regarded merely as a symptom and not as the final and deciding point of the case. In any event it should be repeated and if the reports conflict, repeated again and again. On the other hand do not hesitate to make a diagnosis of syphilis or para-syphilis even in the absence of a positive Wassermann, bearing in mind that it is positive in only 70-80 per cent of the secondary stage and 60 per cent of the testicular stages.

Again the Widal or typhoid agglutination test, though present in 70-80 per cent of typhoid fever patients does not offer a perfect diagnostic criterion. Normal sera in low dilutions such as usually pertains in the dried blood method of the state board laboratories often completely agglutinate typhoid bacilli. The practitioner should never forget this and never cease to watch his patient for rose spots, enlargement of the spleen, the coated tongue, the dicrotic pulse, the tympanites and a host of other minor symptoms and signs with which he used to be familiar before he grew lazy and waited for some technician one hundred miles away to tell him (the medical man) whether his patient has or has not typhoid fever. Shades of Huxham, Louis and Gerhard, we humbly crave your pardon!

And what about diphtheria cultures? Probably no laboratory method of diagnosis is more frequently cursed by the good old clinician than is this. Who has not had negative reports from state laboratories when clinically it was definitely diphtheria, and conversely who has not been upset by having received a positive report in the case of a mild angina or a typical follicular tonsillitis? In the former case I always give the benefit to the clinical picture and give antitoxin, knowing full well that sooner or later the culture will be reported positive. Though even this is not always true as I saw in consultation this year a case of the most malignant diphtheria in a young man, from the throat and nose of whom the cultures on four different occasions were reported negative in two different laboratories. Fortunately the older of the two physicians in charge of the case had more confidence in his sense of smell and vision than in the laboratory diagnosis reports and continued to push the antitoxin method until the disease was overcome, though it required 200,000 units. Now the wise laboratory man can explain away all these fallacies, I know, but what I want to drive home is that there are fallacies in all methods whether of the laboratory or the bed



side, and one method of diagnosis must not supplant the other. Each is of value and correlative, but if either is the superior of the other, it is the clinical. I can say this having spent two years of my training in a laboratory and having surrounded myself with all the modern laboratory methods of diagnosis to which I constantly appeal. When a laboratory assistant tells me that Mrs. Smith has not got acidosis and I have just come from her bed side and left her in coma, I smile and tell him to go down to the ward and change his mind. Do not think I am a bolshevik or an iconoclast. Just let me quote my friend Emerson<sup>10</sup>, formerly an assistant in Osler's clinic in my time and for three or four years in charge of Osler's clinical laboratory and later author of a text-book on "Clinical Diagnosis."

"The clinician is the one whose talent is internal medicine, i. e., the art of clinical inspection and observation employed in the light of experience." "The sciences give him some of his very best tools but they are only his tools and not his art." "Again the one who takes the history of the patient and makes the physical examination is the only one who can interpret correctly a laboratory finding." "Exactly identical reports may have quite different meanings in different cases. He alone who knows the patient can interpret and evaluate a specimen under the microscope or in the test tube and also he often sees that for the record of which no dotted line is provided on a laboratory blank but which may suggest further questions for the history and further physical examinations." "The rather widespread and blind confidence which this past generation has placed in impersonal laboratory reports has brought internal medicine into a certain degree of disrepute."

Galant<sup>11</sup> of Switzerland in a recent paper on psychiatry has pointed out that diagnosis is an art and cannot be learned out of a book, and that the practice of medicine is a true art rooted in insight with diagnosis as the highest achievement.

The medical journals also contain constant reference to group practice in medicine. As you will recall, Dr. C. B. Taylor at our last meeting chose this topic for the oration in medicine. Here and there throughout this state as elsewhere in the country at large are springing up "groups" or "clinics" made up of specialists, for the most part, well trained but alas occasionally with no qualification for the part assigned them other than "an overwhelming desire." Some of these clinics are foredoomed to failure owing to the improper personelle, either from character or training. The

far greater danger, as I see it, lies in the absence of a competent referee or judge as represented by the family physician who will decide for the poor patient whether to have his tonsils or teeth or appendix removed or have a course of radium therapy over the spleen! J. B. Herrick<sup>12</sup> has recently put it in a more euphenistic manner: "For a physician merely to announce that in the future he will limit his practice to a certain kind of disease does not suddenly transform him into a specialist. Exceptional knowledge or unusual technical skill are pre-requisites." Again to quote Herrick, "What is needed is the analytic mind, the sane judgment of the wise man of experience." "Knowledge comes but wisdom lingers."

The real fundamental knowledge of the law is, theoretically at least, possessed by the judge and not to the same degree by the lawyer of the prosecution. The latter is too biased, pro or con, as is too often the surgeon, internist, gynecologist or radiologist. The general practitioner formerly acted as a wise impartial judge. He should do so still and though it is the hardest of all tasks, it is still the most noble, even though it is the least well remunerated. The latter unfortunate side of the question should be corrected by an education of the public, and control of the specialist.

As I feared when I accepted this task I have been tempted to preach. My excuse is only my great love and respect for my profession. Coming from an older and more conservative environment some ten years ago I was struck with the paradox that in this state one saw a keen, alert medical profession received rather coolly if not with suspicion by a rather critical lay-public. The only explanation that has offered itself as satisfactory is that the profession as a whole has been too ready to take up and to over-emphasize the various laboratory and other diagnostic aids and to forget the more important historical and clinical findings that had accumulated for centuries. This has naturally led to wrong diagnoses and consequently to wrong methods of treatment. Surely it is time to realize this and to again become common sense clinicians with the delicate touch, the seeing eye, and deductive mind of our fathers and to free ourselves from the shackles of the laboratory technician.

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## FOCAL INFECTIONS OF THE NOSE AND THROAT\*

### PART I—SYMPOSIUM ON FOCAL INFECTION

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In almost all cases where the focus of an infection is located in the nose or throat—that focus is in a paranasal sinus or in lymphoid tissue in the nasopharynx or the oropharynx. In an occasional case this is not true. As it frequently is very important to be sure there is no focus in either of these two localities it is well to mention briefly certain conditions which only very rarely act as foci of infection.

Any ulceration of the mucosa of the nose or throat is a possible focus of infection. Any condition of the nose which interferes with the passage of the nasal discharge into the nasopharynx in such a way as to cause a stasis of the fluid in pockets may cause systemic infection. The nasal fluid when collected in a pocket in the nose soon becomes purulent. The mucosa lining the pocket becomes macerated and ulcerated permitting systemic infection. An atresia of the posterior nares or a foreign body in the nose may thus produce pus which is pocketed by the primary lesion and the swollen mucous membrane.

In our service the lymphoid tissue in the nasopharynx and oropharynx has been much more frequently the focus of infection than paranasal sinus disease. This is true in infants, children, and in adults. The faucial tonsils are anatomically well suited to serve as foci of infection. The tonsillar crypts are sometimes two inches long. They extend from the surface to the so-called capsule of the tonsil. Often they are branched. They are tubular. Davis<sup>1</sup> estimates that these increase the epithelial surface so that in the average tonsil it amounts to 25 sq. cm. More important than the increase in the surface is the peculiar shape of these crypts. They may be crooked. At times their orifices are constructed so that the crypts become filled with debris and even abscesses form in them. As the result of the infection of the tonsil and the stasis within the

crypt the epithelial cells lining the crypts become disorganized. The healthy cells prevent the passage of pyogenic organisms from the crypts into the tonsillar lymphatics. With the disorganization of these cells this protective process is lost. The deep crypts have a tendency to retain infectious matter. This is manifested clinically in the diphtheria and streptococcic carriers and in the cases of recurrent tonsillitis and of quinsy.

We should not always conclude that because the removal of faucial and pharyngeal tonsils results in an improvement in the systemic condition that the systemic condition is directly due to the tonsillar infection and not to a paranasal sinus disease secondary to the infected tonsils. Especially in young children may we question this. The most common cause of paranasal sinus disease in children is infection of the pharyngeal and faucial tonsils. We have shown that in 80 per cent of the chronic paranasal sinus suppurations in infants and young children that the removal of the diseased tonsils and adenoids alone results in a cure of the paranasal sinus disease. Certainly in all our cases of systemic infection if paranasal sinus disease was present and not eradicated by the removal of pharyngeal and tonsillar infections—the systemic manifestations while improved have persisted.

The fact that a patient has a systemic infection and faucial tonsils does not prove that the tonsil is a focus of infection. A normal tonsil cannot be a focus of infection because the cells lining the crypts will not allow the septic organisms to enter the lymph and blood streams. The presence of the streptococcus hæmolyticus and of white caseous masses in the crypts of the tonsils does not make them dangerous. These conditions may exist in a perfectly normal tonsil.

Davis<sup>2</sup> reports finding hæmolytic streptococci in 97 per cent of the tonsils removed from children. Most of these tonsils are removed because of simple hypertrophy not because of infection of the tonsil. He also reports the results of surface culture of tonsils in normal persons 58 per cent hæmolytic streptococci. In tonsillectomized throats the hæmolytic streptococci were found in a very small percentage of cases.

He considers the lymphoid tissue of the nasopharynx and oropharynx the normal habitat for this organism, hence the presence of the hæmolytic streptococcus in the throat does not indicate a diseased condition of the throat. This hæmolytic streptococcus does not normally grow in the nose, and when found present here it always indicates infection.

Bloomfield<sup>3</sup> carrying on his investigations in

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Baltimore found no hæmolytic streptococci in normal throats. He believes that the frequent presence of this organism in normal throats as observed by Davis and others indicates the recent presence of a widespread infection among large groups of people. Certainly we do not get in summer the large number of streptococcic throat cultures that we secure in winter.

Davis considers the bacterial flora of the tonsillar crypts to consist of fusiform bacilli streptococci and spirochetes. Other organisms if introduced into the tonsillar crypts rapidly disappear.

Bloomfield<sup>4</sup> is of the opinion that organisms introduced into the throat are removed in two ways: first, by the mechanical action of fluids; secondly, occasionally by the chemical action of the fluids of the mouth.

A faucial tonsil to serve as a focus of infection must be diseased. If it is diseased it may serve as a focus of infection. Even if diseased it is not necessarily the focus. Two things either of which if present in a case with diseased tonsils suggest that at least in part the tonsils are the focus of infection. A history of sore throat just preceding the development of the systemic infection or existing at the time of the beginning of the infection points very much toward tonsillar focus. A history of recurrent attacks of sore throat during which the systemic manifestations are more marked is of value. Better is to note during the periods of activity of the systemic manifestations if there is increased redness of the tonsils and the region about them. This latter condition if present is a very positive indication of the tonsil being a focus.

As a faucial tonsil cannot be a focus of infection unless it is diseased and as a faucial tonsil should not be removed unless it is diseased it is very important to know the condition of the tonsil.

The history of repeated attacks of tonsillitis and the enlargement of the tonsillar gland at the angle of the jaw indicate a diseased tonsil. By inspection and palpation the diseased tonsil can be diagnosed. A chronically reddened anterior pillar always indicates a diseased tonsil and is always present when the tonsil is diseased. The redness is due to the infection of the surrounding mucosa from the tonsil. It indicates the infection is not confined to the tonsil. It disappears after tonsillectomy. On palpation a diseased tonsil feels harder than the normal; in the depths of the tonsil one can feel indurated areas which are areas of infection.

Certain kinds of tonsils are more liable to cause metastatic infection. The poorer the drainage

from the crypts of the tonsils the greater the tendency to cause systemic disease. Hence tonsils the orifice of whose crypts have been constricted by repeated attacks of acute tonsillitis, tonsils whose crypts have been occluded by incisions or partial removal, the so-called submerged tonsils many of whose crypts have their openings occluded by the overlying anterior and posterior pillars are particularly liable to cause systemic disturbance. A tonsil which on palpation reveals a chronic abscess in the bottom of a crypt is a very dangerous tonsil. The large peduncleated tonsil with the wide open crypts has good cryptic drainage and is usually benign.

Because of these deep crypts harboring infectious material the treatment for diseased tonsils is tonsillectomy not tonsillotomy. A clipped tonsil as noted by Billings is more liable to be a focus of infection than an unoperated one because the scarring of the surface seals the infectious material in the bottom of the crypt.

The pharyngeal tonsil when diseased may serve as a focus of infection. If diseased and capable of serving as a focus like the faucial tonsil it will be surrounded by an inflamed area. It is much more frequently a focus of infection in individuals sixteen years of age or younger than in those over sixteen. It may, however, be a focus of infection at any age. A very small pharyngeal tonsil if diseased may serve as a focus.

While diseased tonsils and adenoids are the most common sources of infection of the paranasal sinuses we must remember that suppuration of these sinuses may be responsible for the continued infection of the pharyngeal and faucial tonsils. We must also remember that infected faucial tonsils are occasionally secondary to diseased teeth and with the removal of infected teeth the tonsillar infection may disappear. It is absolutely essential in every case where a diseased tonsil is suspected to be the focus of infection that the teeth and paranasal sinuses also be examined. If infection is found it should be eradicated.

If the infection in the mouth, nose and throat is confined to the faucial tonsil, the removal of the faucial tonsils does not permanently eradicate the focus of infection from the throat. After the faucial tonsil with its so-called capsule has been removed there is left behind in the fascia of the pharyngeal muscles lining the fossa tonsillaris groups of lymphoid cells. After the removal of the tonsil these may take on a rapid growth and soon reproduce a new tonsil which if it become infected may serve as a focus of infection just the same as the original tonsil. The only way to prevent recurrence in this manner would be to

perform a pharyngotomy, that is, remove a portion of the muscles of the pharynx, a procedure which could not possibly be approved. Fortunately, if these new formed tonsils are removed again, and perhaps a second time, the tendency to reproduce disappears and the throat remains clear.

When a patient comes into our service with lymphoid tissue in vault of pharynx, or sinus tonsillaris, reporting that the tonsils and adenoids had been removed by a colleague, we are always very careful not to give the idea that an incomplete operation has been performed. I hope others will be as charitable when cases we have operated come to them with apparent tonsil or adenoid remnants. I have seen a faucial tonsil grow like a mushroom from the bottom of the sinus tonsillaris after a clean tonsillectomy before the wound was healed. I know of one case of adenoids operated four times by some of the best laryngologists in America with recurrence.

Faucial tonsils are more often reproduced in another way. Frequently, in adults, especially after the removal of the faucial tonsil complete there will be noticed on the base of the tongue a mass of lymphoid tissue. Examination of the removed tonsil shows it intact; it is surrounded by a fringe of mucous membrane; the fossa tonsillaris is clean. Within a short time after the operation, this mass on the base of the tongue may grow into the fossa tonsillaris, and we have what appears to be a new tonsil. The removal of the tonsils produces oftentimes a growth of neighboring lymphoid tissue frequently spoken of as compensatory hypertrophy of the lymphoid tissue of the throat.

If we remove thoroughly the pharyngeal and faucial tonsil immediately following the operation before there is time for reproduction of adenoid or tonsil the throat may contain a focus of infection. There may remain an infected lingual tonsil or infected infratonsillar nodes, or infected lymphoid masses high up on the posterior pillar of the fauces. In short, the removal of the foci of infection from the nasopharynx and oropharynx is a very painstaking job.

The lingual tonsil is situated on the dorsum of the tongue just anterior to the epiglottis. It contains crypts and harbors streptococci just as does the pharyngeal and faucial tonsils. However, its crypts are wide, short and straight<sup>5</sup>, consequently it is not commonly the seat of focal infection. Every year in three or four arthritis cases by work done on the lingual tonsil alone we eradicate what is apparently the focus of infection. We have not as yet definitely found this tonsil serving as a focus of infection in any child twelve

years of age or younger. We may, however, find such a case any time. We examine the lingual tonsils of children when infection persists after the removal of tonsils and adenoids just the same as in adults. This tonsil has a tendency to show the compensatory hypertrophy after the removal of faucial tonsils and adenoids. It is the lateral extension of this tonsil which may grow into the tonsillar fossa and reproduce a new faucial tonsil.

The lingual tonsil may be removed by suspension laryngoscopy and the use of a broad cautery tip or the cautery snare. We prefer the former procedure.

If the lateral extension of the lingual tonsil should be marked, and is operated upon at the time of the removal of the faucial tonsil, an adhesion will form between base of tongue and sinus tonsillaris. This looks bad but I have not noted that it causes any bad results.

The lymphoid tissue on the posterior surface of the posterior pillar of the tonsil usually disappears after the removal of the faucial tonsil. Because of the scarring of the palatopharyngeal muscle, one of the muscles of speech, if this is removed, I prefer to leave it alone and watch for its disappearance after the operation.

The infratonsillar nodes are of greatest importance. They are located on the wall of the pharynx below the tonsil, or posterior to its inferior pole. These may be adjacent to the faucial tonsil or three-fourths of an inch from it. They have a capsule similar to that of the faucial tonsil. Their surface may be covered with the openings of crypts. These crypts may be deep and harbor streptococci the same as the faucial tonsils. They should always be looked for when the tonsils are removed to eradicate a focus of infection, and if found, should be removed. They may be removed with tonsillar snare and forceps. If the work is being done under local anesthesia this procedure is very disagreeable to the patient. There is, however, no excuse for leaving a mass which will continue the infection.

The pharyngeal, faucial, and lingual tonsils are always present. The infratonsillar nodes and the nodes on the posterior surface of the pharynx and posterior pillars of the fauces are very minute unless they are diseased. When diseased, the infratonsillar nodes may become one-half inch in width and depth.

The removal of these various masses of lymphoid tissue results in the inflammation of the muscles of deglutition in the throat. The pain on swallowing is very intense. I trust that I am not deviating too much from my subject in suggesting that you can feed your patient liquids, without



pain, by a very simple procedure. Have the patient sit in a chair with the head tilted backwards. Apply hands to jaw and neck just below the ears. Attempt to lift the patient with the hands thus applied, and while lifting, have him drink. The fluid will be swallowed without pain.

Many of these diseased tonsillar masses that are removed prove, on microscopical examination, to be tuberculous. About 1 per cent of these we remove are found to be so affected. I know of no way of positively diagnosing a tuberculous lesion of a tonsil before it is removed, unless we have the ulcerated form which is usually secondary to pulmonary tuberculosis.

Infections of the lymphoid tissue in nasopharynx and oropharynx is estimated by various observers as being the focal cause of systemic infections in from 25 to 50 per cent of the cases.<sup>6</sup> Paranasal sinus disease is said to be the focus in 5 to 25 per cent of the cases.

When the focus of infection lies in the paranasal sinuses we are confronted by a more difficult problem. When the infection is in tonsil or tooth by conscientious work we can remove the offending member and throw it away. With the paranasal sinus chronic empyemata the best we can immediately do is to ventilate, drain, curette, etc., and hope that by weeks of after treatment the condition will be eradicated. In the meantime, the discharge continues, and while efficient drainage removes very much the menace it does not eradicate it.

Putting the figure very small I doubt if 25 per cent of my cases of chronic suppurative ethmoiditis in adults ever get well. During the summer the discharge ceases. If they go to Asheville, North Carolina, or Tucson, Arizona, the trouble may disappear as if by magic. But when our changeable, damp, Iowa winter weather comes if they return here or remain here the trouble reappears. Dr. Jervey of Greenville, South Carolina, gets 100 per cent of cures in his chronic empyema cases by simple drainage and ventilation. The prognosis in chronic empyema of the paranasal sinuses is influenced more by the patient's finances allowing him to seek a favorable climate than by anything else.

In infants and children with chronic paranasal sinus disease the story is quite a different one. As I said before, 80 per cent are eradicated simply by the removal of diseased lymphoid masses in the naso and oropharynx. The time to eradicate the chronic paranasal sinus infections is during early childhood. In only the very rare cases is any operative work on nose or paranasal sinus

indicated in a child. Only in the most unusual severe cases should any turbinate tissue be sacrificed.

The diagnosis and treatment of paranasal sinus disease is too large a field for us to approach in a paper of this nature. It is well to remember that it is difficult to diagnose and to treat, that it when present cannot always be eliminated. The most experienced operator cannot feel sure he has drained every diseased cell in chronic suppurative ethmoiditis. Paranasal sinuses serve as foci of infection in young children the same as in adults. It is rare to find in a paranasal sinus a focus for systemic infection in a child under three years of age. Ethmoidal cells are always present at birth. The development of the sinuses varies very much. At the age of five years a child may have a sphenoidal sinus 18 m.m. in diameter or none at all. In infants and young children when paranasal sinus disease is suspected it is well by means of an x-ray examination to determine what sinuses are present, and of those present, what are of clinical importance on an anatomical basis. A sinus is of clinical significance on an anatomical basis when it appears in the x-ray plate as a distinct cell. Sneezing, nasal discharge, nasal stoppage, recurrent colds, nasal headaches are symptoms of paranasal sinus disease in infants and young children. The hawking and spitting of a post nasal discharge, so common in adults, is conspicuous by it because of the discharge being swallowed.

In children with diseased tonsils and adenoids paranasal sinus disease is very common during our winter months. It disappears during the summer. The prognosis of paranasal sinus disease in infants and young children is very much better than in adults. Many adults can trace their incurable paranasal sinus disease back to early childhood. The time to eradicate paranasal sinus disease is during its early stages. In children where we remove tonsils and adenoids for systemic disease we always ask the pediatricist or orthopedic surgeon to return the patient to us if the child shows indications of the persistence of focal infection. It is in this class of cases that a most careful examination of the paranasal sinuses reveals, frequently, the presence of paranasal sinus disease. In short, I think that whenever you remove diseased tonsils and adenoids from a child and you do not get the great improvement that you naturally expect that paranasal sinus disease should be suspected. If the child still suffers from nasal discharge and nasal stoppage it is almost sure to be present unless you have syphilis or some obstructive lesion of the nose.

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## FOCAL INFECTION OF THE MOUTH, TEETH, TONSILS, AND MAXILLARY BONES IN RELATION TO SYS- TEMIC DISEASE\*

### PART II—SYMPOSIUM ON FOCAL INFECTION

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CALVIN W. HARNED, M.D., Des Moines

For many years physicians and other scientific observers have suspected that systemic infection often originated from some focal nidus within the body. Every since the establishment of the germ theory of disease and the great work done by Lister and Pasteur over fifty years ago, medical science has spared no effort in time and labor in order to more clearly determine the characteristics of every conceivable form of germ and bacterial life.

Thanks to the untiring efforts of scientists and to the incredible amount of research that they have carried on, we now know a great deal concerning their origin, life, growth and manner of culture: Still, a more definite knowledge is necessary, especially in regard to their transformation and peculiar selectivity for special tissues and organs, before we can speak with authority upon the subject of focal infection and metastatic disease, or with certainty of just how and why they attack certain organs and tissues in certain people while other tissues and people remain practically immune against their activities. We know that systemic disease and infection exist however, and that it is often the result of small, sometimes seemingly insignificant foci of infection.

The subject of focal infection, especially as related to the tonsils, teeth and maxillary bones, has been so extensively investigated, agitated, exploited and I might say exaggerated in the last few years, that it seems unprofitable to attempt to present, at this time, even a part of the enormous amount of statistics collected and compiled by the various investigators. While some of the work is of great importance, much of the data is only confusing and misleading.

The teeth, tonsils, accessory nasal sinuses and maxillary bones are very likely to be the seat of such foci. First, because of their situation at the entrance of the respiratory and digestive systems

and second because their peculiar mechanical and anatomical construction is such that they may readily collect, retain and foster the growth of pathogenic germs.

Miller, of Berlin, was perhaps the first to give us a scientific discussion of this subject. About thirty years ago he published a series of articles in the Dental Cosmos entitled "The Mouth as a Foci of Infection." His material was gathered from a vast amount of scientific experiments and observations. However, his conclusions were that the greatest harm came from the ingestion of the poisonous excretions that were the product of inflamed and suppurating tissue, as in pyorrhœa, from abscesses discharging into the mouth and also from decayed teeth.

Later the absorption of toxins and germs into the blood stream and lymph circulation has proven to be much more productive of systemic infection than the simple ingestion of pus. For it is quite probable that at least the greater part becomes digested and proves harmless.

For the last quarter of a century, diseases of the mouth, teeth, and maxillary bones have been looked upon with grave suspicion by both dentists and physicians when investigating obscure systemic infections. Perhaps in too many instances we have recommended the removal of all teeth and tonsillar tissue for the treatment of refractory cases of neuritis, rheumatism, kidney and digestive derangements.

The trend of both the medical and dental professions is toward a more conservative stand on this subject. There is no doubt in the minds of many careful thinkers that many unnecessary tonsil enucleations have been performed, that thousands of useful and innocent teeth have been sacrificed, and that at the present time many useless curettements of diseased root sockets and so-called surgical removal of teeth are being done upon the hazy and unsubstantiated supposition that possibly they may be the infective foci of existing iritis, neuritis, rheumatism and heart affections.

That septic foci do exist in and around the tonsils, teeth and tissues of the mouth, even in the maxillary bones themselves and that at times, under certain favorable conditions, they do cause systemic infection, made manifest by one or all of the above mentioned diseases, I am firmly convinced. But that they are the primary, etiological factor in as great a majority of cases as some writers would have us believe, I am greatly in doubt.

In the first place, many of these reports are compiled upon a special group of pathological

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cases, which would lead us to false theories if followed to their ultimate conclusions. For instance, we would remove the tonsils and all pulpless teeth in every case of neuritis, rheumatism and systemic infection of obscure origin.

I am not at all convinced that it is even desirable to remove all the sources of systemic infection from the human body, were such a thing possible. We know as long as disease exists and pathogenic germs are present on every hand it is necessary to develop certain antibodies and to establish definite immunities in order for the system to combat and overcome the repeated infections that are inevitable. If this method of natural vaccination is necessary, the lymphoid tissue of the pharynx seems to be the most desirable and suitable point of entrance.

Patients only present themselves to the physician or specialist for relief when the natural defenses of the body are overcome with an excessive dose of disease producing germs, or by errors in the diet, lowering the resistance to such an extent that germs, which under normal conditions would be harmless, now become pathogenic and we have disease produced which is nothing more nor less than a deficiency disease. In the great majority of instances it has been from this class of patients that statistics were made.

Examples of this type are: Rickets, scurvy, certain eye disturbances, and at the risk of severe criticism I am going to place in this list our old friend or enemy, pyorrhœa alveolaris. For experience is rapidly teaching us that mechanical treatment and diet is the most efficacious method of treating this condition.

If we are presented with a group of cases suffering with iritis, neuritis, rheumatism, appendicitis, gallbladder inflammation, kidney or heart complications, and careful examinations disclose the fact that they are also afflicted with pyorrhœa, blind abscesses, pulpless teeth, or hypertrophied tonsils, it is natural to look upon the latter as the cause, but it is not at all conclusive evidence. How many people, not patients, have pulpless teeth without the slightest evidence of systemic disease or infection? The same question can be asked of each of the above mentioned conditions. Many people have all these affections and still remain absolutely free from clinical evidence of other disease. The proportion will probably be ten, that are otherwise normal, to one that has systemic infection. Drs. Gilmer, Talbot and other well known and able investigators have long contended that a great majority of blind alveolar abscesses are of hematogenous origin. Their combined opinion and conclusions are far too valuable to be regarded lightly.

There are many people, on the other hand, who have iritis, neuritis, rheumatism, heart and kidney disease in whom no oral foci of infection is demonstrable. Therefore, it inevitably follows that it will require some careful study, good judgment and painstaking investigation to separate all the worthless data from the mass of so-called evidence and statistics that recent investigators have presented for consideration. That it contains much valuable information, I am sure. The great danger lies in our becoming too radical in our enthusiasm over the reports we read and a few cases in which we obtained good results, thereby becoming careless and over confident in diagnosis and casting discredit upon the real merits of the theory of focal infection.

We do not deserve the name of a scientific body, if teeth and tonsils are to be removed upon bare suspicion. This is only justifiable in extreme cases in which the necessary delay in order to examine and eliminate all other possible sources of infection, would be dangerous to the life of the patient.

We have at our command sufficient means of determining if an area of chronic infection exists in the maxillary bones, soft tissues of the mouth or pharynx, and when these means fail to disclose any pathological conditions we should not allow a diagnosis of systemic infection from foci within the mouth to stampede us into rash surgical procedures.

I admit that a diagnosis of this character on a given case often places the specialist in an embarrassing position, but if the operation is performed it will very likely bring discredit upon the surgeon and the profession in general.

It might not be out of place to review some of the methods employed in the examination of the tissues of the mouth, teeth, maxillary bones and tonsils, for chronic foci of infection.

One of the first and most important parts of a thorough examination is a very accurate and complete history.

#### EXAMINATION OF THE TEETH AND MAXILLARY BONES

##### First—Inspection

This is as important as in any other examination and much may be learned if it is done thoroughly.

A—Examine the entire mucous membrane for discolorations. Changes in contour, swelling. Ulcerations, congestions, fistulous openings. These latter are usually found on the labial and buccal sides of the bones, but may be found on the lingual and palatal surfaces as well.

##### Second—Palpation

A—By careful palpation you may be able to elicit tenderness over suspicious areas which will add to

the evidence in favor of bone disease at the apices of roots of teeth, or in the maxillary bones themselves.

B—Firm, steady, lateral pressure on a diseased tooth, especially the molars, may disclose pain and tenderness due to disease not demonstrable by the x-ray or any other means.

C—Firm, prolonged pressure over a diseased area in the bone, a blind alveolar abscess or an unerrupted tooth will usually cause pain.

D—With one finger on either side of the bone to be examined, producing alternately firm pressure with each finger, will sometimes demonstrate the presence of bone absorption.

### Third—Percussion of the Teeth

The best method is gentle tapping on the teeth with a small steel instrument, careful comparisons being made with other teeth, striking the tooth in such a manner that it will not be driven against its neighbor thereby causing pain in the adjacent tooth. Change the angle of the blow in all directions and do not let the patient know which tooth is being tested. If repeated tests always produce pain when a certain tooth is percussed it is positive evidence of pericemental inflammation and perhaps disease at the apex of that tooth.

### Fourth—Transillumination

The value of this test is only confirmatory, not positive, and may be very misleading. It is even of less value in the examination of the teeth and maxillary bones than when used in connection with the sinuses.

### Fifth—Rentgenograph

I have purposely placed the x-ray last for several reasons, not that I would deprecate its value, but because it is very often misleading and may prejudice the surgeon in arriving at a correct diagnosis. It tends toward the neglect of an accurate history taking and predisposes to careless physical examinations.

Too often a diagnosis is made upon the x-ray findings alone, even when taken and interpreted by one who has no accurate or scientific knowledge of the possible pathology that may be present in the structure under examination.

The perfection and almost universal use of the x-ray has placed in the hands of scores of technicians who are totally untrained in medical science the means of demonstrating to the patients satisfaction and oftentimes to the physician and surgeon as well, conditions that in reality do not exist or that have little or no influence upon the disease from which the patient is suffering.

The interpretation of an x-ray plate or film can only be made with safety by an expert who understands and is familiar with the physiology, anatomy and pathological changes that are common and may be found in the parts to be rayed.

One's ability will increase as comparisons are made with the actual findings in the operation room. After hundreds of such comparisons one might venture to interpret a radiograph with some assurance, but it is

wise to be guarded for the x-ray is often a treacherous ally. Dark shadows do not always indicate pathological bone rarefaction, neither does density always denote abnormal bone formation.

A thorough clinical examination, a painstaking history of the case, carefully reviewed by physician, surgeon and dentist all working in harmony is the wise course in these obscure infections and will often reverse a diagnosis made upon the x-ray findings alone.

## EXAMINATION OF THE TONSILS

### First—Inspection

A—Look for areas of dusky redness along the inner border of the anterior pillars—evidence of inflammatory condition. Old scars.

B—Note the physical characteristics of the tonsillar tissue. The extent and amount of lymphoid tissue. The presence of enlarged or congested lingual and pharyngeal tonsils.

C—With a pillar retractor press latterly the anterior pillar and expose the tonsil for a more complete inspection.

### Second—Palpation

A—Palpate externally for enlarged lymph nodes at the angle of the jaw. This may be made easier by placing one finger inside the mouth pressing the tissue along the floor of the mouth outward and downward against the finger on the external surface.

B—Palpate the tonsil itself with one finger external to the mouth forcing the tonsil inward.

Or place one finger on the anterior pillar and the finger of the opposite hand behind the tonsil, rolling the tonsil between the fingers. The tonsil is compressed in this manner and the presence of indurated areas, even small tonsillar abscesses may exist and be discovered. Normal tonsillar tissue should be of the same consistency throughout.

The presence of caseous material in the crypts is not uncommon and is only evidence of previous inflammation, while a thick creamy or sero-purulent discharge upon pressure is of much more importance and is significant of active infection.

Palpable lymph nodes in the drain site of the tonsil, the presence of indurated masses in the tonsillar tissue or the reddened border of the anterior pillar is sufficient evidence of infection in the tonsil.

Blood examination may be of value in determining the existence of chronic infection in the maxillary bones and around the roots of teeth, for infection there produces a reaction in the blood giving a leucocytosis similar to infection in the appendix or elsewhere. (Differential.) Blood counts should be made in these obscure cases. But here again the chance of error is great, calling for a most intelligent interpretation.

I feel that our attitude toward focal infection should be open and frank to receive all the evi-



dence, both for and against, forming our opinion and diagnosis only upon the evidence we are able to demonstrate. When a case is presented we should be aggressive in our investigations, but demand adequate proof of infection before advising operation. In this manner we may escape the humiliating experience of harmful operations, accomplish the greatest good for our patients and promote the best interests of our profession.

## GASTROINTESTINAL INFECTIONS\*

### PART III—SYMPOSIUM ON FOCAL INFECTION

M. B. GALLOWAY, M.D., Webster City

The fact of a relationship between abnormal gastrointestinal conditions and certain focal infections has long been known; or, rather it has long been recognized that certain conditions that we know today to have been focal infections have and have had an influence upon disturbed function of the gastrointestinal tract. Duke cites Benjamin Rush of colonial days, as making reference to the fact of improved health, after the removal of diseased teeth. Rush stated that his work or observation confirmed those of others of his day.

For many years past, it has been a common observation of even the laity, that certain people enjoyed better health after the removal of their diseased teeth, and the substitution of artificial ones. This was variously attributed to the removal of the pus and inflammation and to the better mastication of their food. Influences which doubtless have their effect but perhaps the results were more largely due to the removal of the chronic foci of infection. From time to time, certain observers have noted the effect of foci of infection upon tissues in other parts of the body. No definite relation between focal infections and the gastrointestinal tract was established, until the work of Rosenow and Billings and their co-workers. The definition of focal infection is given thus by Billings:

"A systemic or local disease due to infectious organisms carried in the blood or lymph stream from a focus of infection. A focus of infection is a localized or circumscribed area of tissues invaded by microorganisms, and may be either primary or secondary. By primary is meant the principal, or first infected areas, from which the pathogenic agents gain entrance to the blood, or lymph stream, to cause systemic or organic disease."

A focus of infection may be acute or chronic,

the former is usually inflammatory; the latter may be and often is, symptomless.

The causative organisms are most often some form of the streptococcus; others have been found to be the cause of focal infection, such as the pneumococcus and some few others.

The portions of the gastrointestinal tract most often affected by focal infection are: Appendix, gall-bladder, stomach and duodenum. Less often apparently, pancreas, colon, sigmoid and rectum. Some of these may be regarded as the location of primary foci for lesions in other parts of the body.

In ulcer of the stomach and duodenum, Billings states that in experimental animals the lesion is produced by a streptococic embolic infection of the submucosa of the stomach with resulting small hemorrhages into the surrounding tissues.

In consequence of the hemorrhage and the presence of the infectious microorganisms in the surrounding tissues, anemic necrosis so weakens the overlying mucous membrane, that it becomes digested by the gastric juice. If the infection is virulent enough and there is sufficient injury, chronic ulcer results. They maintain that ulcer results, because of a circumscribed area of tissue losing its normal resistance, through malnutrition or neurosis, or to the gastric juice becoming digested.

Burge and Burge assert, that decreased resistance of a circumscribed area of the stomach, to gastric juice, due to a decreased oxidative process of the cells of the area, followed by a subsequent digestion of the area by pepsin, is the explanation of ulcer.

However, Rosenow states "These observations still leave the cause of the local disturbance unexplained." Rosenow's experiments indicate, that local malnutrition, described by Bertram, and the circumscribed area of decreased oxidation, described by Burge and Burge, are commonly due to embolic localization of streptococci having a chemotactic attraction, or affinity for the mucous membrane of the stomach.

Rosenow's work upon ulcer has been verified by Heemholz, Hardt and others. A number of workers have failed to confirm the results that Rosenow has obtained. We believe, however, that the burden of proof remains upon them.

As Rosenow himself says, "The inability to obtain evidence of the localizing power of the bacteria in the hands of some workers, as pointed out by Gay, might well be explained by insufficient attention to details.

Many of the Eastern writers do not accept the theory of focal infection in its etiologic relation

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to ulcer. Willenski however, in speaking of ulcer states: "A certain number of them are due to primary infections by bacteria," and goes on to say that the reliability of the work of Rosenow and others showing that the portals of entry are frequently the teeth and tonsil, and that a selective localization of these bacteria occurs in the stomach, has not yet been firmly established. He admits, however, that there have been recurrences in the course of a medical cure of ulcer, which followed a fresh attack of tonsillitis, or the re-appearance of pyorrhœa about the teeth and states further, "That many of our patients as we see them clinically, exhibit a most deplorable condition of the teeth."

Carroll of New York, says "Rosenow's work may not be conclusive, but it will require many years of concentrated effort on the part of scientific workers to disprove it."

Sippy accepts the theory of the etiologic relation of focal infections to ulcer of the stomach and duodenum, and gives a very guarded prognosis in all ulcer cases, where he is not certain that all foci of infection have been removed.

Langstroth, working at the University of California, found foci of infection in 84 per cent of all ulcer cases. While his total number of cases is small, it is suggestive. Our own observations confirm these results. The following case is a typical one:

C. G. C. Merchant, aged forty-six, ulcer of ten years standing with hyperchloridria, pylorospasm, vomiting, pain of the usual ulcer type, occult blood in stomach contents and stools, filling defect with the barium meal. Numerous attempts at cure failed even under the most favorable conditions. A chronic alveolar abscess was discovered and he admitted that he had known of this for years. This focus of infection was thoroughly eradicated and the diet and treatment allayed all symptoms. There has been no return in four years, though he has been upon a liberal diet.

In ulcer, teeth and tonsils are oftenest the primary focus of infection. Prostate is entitled to dishonorable mention and likewise, the lower bowel. Frontal and maxillary sinuses and the chronic appendix may be mentioned.

Hempelman states that the appendix is a fruitful source of trouble in ulcer, and urges the routine removal of the appendix when operating for stomach ulcer. Most of us know that the chronic appendix and ulcer are frequently present in the same patient, and that the removal of the appendix frequently clears up ulcer symptoms.

Soper urges the routine examination of the lower bowel for foci of infection in ulcer cases.

In children, Wetherill has been convinced of the etiologic relation of tonsillitis to chronic appendicitis.

Parker says that cyclic vomiting in children is usually relieved by the removal of infected tonsils and adenoids. Other writers mention the improved health of children following the removal of foci of infection, though they do not specifically mention the gastrointestinal tract.

Adrian, cited by Billings, states that the histologic lymphoid structure of the tonsil and appendix is similar and this similarity of tissue is given as a reason for the etiological relationship. He speaks of such cases of appendicitis as "Anginal Appendicitis."

Connell believes that the genitourinary system, and especially the urinary bladder, is the seat of the primary focus in many cases of appendicitis.

All cases of appendicitis are probably not focal in origin, many acute cases are doubtless due to direct infection by coli. It must be remembered that in all focal infections, that there may be more than one focus of infection, that is keeping the chronic condition alive.

The appendix has been held to be the primary focus in many causes of ulcer of the stomach and duodenum, cholecystitis and even tonsillitis. The frequency with which it is found coexistent with ulcer and gall-bladder disease is certainly suggestive. There is no doubt that in many cases where chronic appendicitis and ulcer of the stomach were co-existent, the patient has been operated for the appendicitis, the removal of the appendix as a primary focus and the restricted diet following the operation, have been sufficient to affect a relief of the symptoms, and in time, as a cure of the ulcer.

Cholecystitis is unquestionably due at times to a hematogenous infection with strains of streptococci and possibly to other organisms. A patient suffering from acute cholecystitis was operated upon, and it was noted that in the fundus of the gall-bladder there was a small softened area which was excised.

From the softened tissues, Rosenow isolated a strain of streptococci which when injected into animals produced cholecystitis. This patient suffered from tonsillitis and a short time before the onset of the attack of cholecystitis, had suffered from an acute attack of tonsillitis. Strains of streptococci isolated from the tonsils had a like affinity for the gall-bladder in intervenously inoculated animals. Clinically, Langstroth found chronic foci of infection in 100 per cent of gall-bladder infections.

It has been stated that chronic cholecystitis has



been improved, and at times practically cured, by the eradication of a maxillary sinusitis.

Our own experience confirms the results obtained by the various workers quoted.

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### FOCAL INFECTION IN THE GENITOURINARY TRACT\*

#### PART IV—SYMPOSIUM ON FOCAL INFECTION

JOHN S. MCATEE, M.D., Council Bluffs

Focal infection from a genitourinary standpoint should properly be divided into two groups.

1. The cases in which the primary focus lies in the genitourinary tract.
2. The cases in which the focus lies elsewhere, the genitourinary tract being secondarily involved.

While we must consider infections of the kidney under the first group, it is generally conceded that in pyelitis, pyonephrosis, and other lesions of the upper urinary tract, metastases are rare, though there is commonly a coexisting severe toxemia. The ureter, bladder, prostate, vesicles, etc., may be affected as a result of the kidney focus, but this is generally not of hematogenous origin, as the infection is most frequently borne by the urine or is a so-called descending infection.

The possibility of metastases, the result of a cystitis is rather far fetched and in all probability does not occur. The bladder is not an absorbing organ, and according to Magonn<sup>1</sup>, absorption of bacteria through the normal bladder mucosa, or the acute inflamed mucosa must be relatively slight if it occurs at all. Infections of the bladder may occur when there is pathology in the prostate or urethra sufficient to interfere with drainage. It has been demonstrated by injecting pure cultures of bacteria into the bladder of animals that no infection of the bladder resulted when drainage was not interfered with. It was found how-

ever, that when the penis was ligated after the injection of the bacteria that cystitis immediately ensued. In bladder infection due to obstruction, toxic symptoms are frequently noted, but here as in kidney infection there is a scarcity of reports of actual metastatic localization.

The prostate and vesicles are probably the most frequent site of focal infection situated in the genitourinary tract and the most prolific cause of systemic disturbance. The location of the prostate lays it particularly liable to infection from kidney, bladder, urethra, and rectum, to specific infection, to lowered vitality as a result of too active or too passive sexual existence, to injury, and to disturbances in circulation which would contribute to infection. A large majority of individuals contract gonorrhea and are subjected to many kinds of treatment. It is reasonable to assume that a small percentage of these are cured. The greater percentage however, are left with a permanently damaged urethra and should they overcome the gonorrheal infection, they are particularly vulnerable to invasion by some of the more chronic organisms of lesser virulence.

We think it is pretty generally conceded that focal infection in one part of the economy may cause serious disturbances in another part or affect the body as a whole, and granting that a gonorrheal infection situated in the posterior urethra and prostate can cause an arthritis, endocarditis, etc., etc., is there any reason to argue that other organisms cannot cause a disturbance of equal degree or as much at least as the focus situated in a tonsil or a sinus. We think the answer depends entirely on the drainage of the part. If drainage is good, there is little or no absorption of pathologic material, if drainage is poor or lacking we will have absorption in a greater or lesser degree. It is a fortunate fact that drainage of the genitourinary tract is usually good. There are conditions however, which seriously interfere and probably the most common of these is stricture of the urethra. Fibrosis, the result of inflammation of the prostatic gland and ducts of the seminal vesicles are also factors which largely contribute to poor drainage, and to absorption, and Peters<sup>2</sup>, in reporting cases of non-specific arthritis from genitourinary origin arrives at these conclusions when he says, "The pathological findings in this class of cases are usually:

1. A non-specific infection of the prostate and seminal vesicles.
2. Inflammatory fibrosis of their ducts near the urethral opening.
3. Extension of the infection to the posterior urethra and bladder.

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4. Partial stricture of the urethra, materially disturbing drainage."

In the event of infection in the posterior urethra, prostate, or vesicles, with partially interrupted drainage, we have all of the contributing factors to the establishment of a focus that may later cause metastases elsewhere in the body, and we agree with J. T. Geraghty<sup>3</sup>, that the seminal vesicles are much more commonly the cause of persistent bacillary and coccal infection of the urine than is generally supposed—the fixing of the responsibility on the seminal vesicles as the source of continued or recurrent infection is not always easy. In many cases the presence of vesiculitis may readily be determined by palpation, but it is surprising what a large percentage of infectious active foci are present in one or the other vesicles and still careful palpation may reveal few changes.

Occasionally interesting cases will be seen complaining of persistent arthritis usually most evident in the lower extremities which health resorts, arch supports, and the removal of teeth and tonsils do not benefit or relieve, but examination of the prostate and seminal vesicles reveal the involvement of these structures and with suitable treatment, namely massage, irrigation, and vaccine the arthritis clears up promptly.

No search for the primary site of a focal infection should omit a thorough examination of the genitourinary tract, and while we agree that the palpation of the prostate and vesicles is a disagreeable procedure, at the same time we contend that it is pregnant with possibilities and not too disagreeable to do any good. While it is not our intention to compare the urinary tract with other portions of the body as a site of focal infection, we maintain that it should not be overlooked in an examination.

Under the second group, we find diseases of the urinary tract that are caused by foci situated in the teeth, tonsils, sinuses, etc. Considerable time could be taken up in dealing with any one of these subjects, but I wish merely to lightly touch upon each. Nephritis, kidney abscess, stone, pyelitis, ureteral stricture, cystitis, prostatitis, vesiculitis, and urethritis are not infrequently the result of focal infection. Hematogenous infection of the kidney or pelvis is a less common form than the ascending infection, but it has been shown during recent years to occur with greater frequency than was at one time supposed. It is found in infants, children, and adults, and probably occurs more frequently in infants and children, and tonsils, furuncles, or carbuncles, teeth or sinuses are many times the seat of the primary

foci. It is now recognized that bacteria are constantly entering the lymphatics from the intestines and other sources. They may be destroyed at the point of entry or at the lymphatic glands, or they may pass through the lymphatics into the blood stream. One of the functions of the renal parenchyma, especially the convoluted tubules, is to remove bacteria present in the systemic circulation. It has been proved that the virulence of these bacteria is not reduced in their passage through the body. The excretion of bacteria in this way does not give rise to any symptoms which show that the kidneys are damaged. We know, however as a result of experiments on animals that the secreting membrane is injured by the passage of bacteria. The damage is probably slight and is repaired partly or completely by the regenerative powers of the kidneys. In some cases long continued excretion of bacteria or their toxins may be the cause of interstitial changes in the kidneys. It is held that the excretion of bacteria does not cause pyelonephritis unless some additional factor is present. Predisposing causes of pyelonephritis are traumatism, excessive functional activity, the elimination of toxic bodies, previous disease of the kidney, such as urinary obstruction, calculus or new growth. It is exceptional however, to find any of these factors present, and it is more likely that chronic toxemia from chronic constipation, or an excessive dose of an exceptionally virulent strain of bacteria, as a result of acute systemic infection, or focal infection elsewhere in the body are the decisive factors. Peters<sup>4</sup>, in discussing acute unilateral kidney infection of hematogenous origin, says, "A small embolus detached from some focal infection as tonsils, furuncles, abscesses, or rheumatic infection is carried by the blood stream directly to the kidney substance. Associated with the embolus are a few microorganisms, which lodged in the capillary vessels of the glomerulus, set up a focus of the disease which spreads throughout the kidney by way of the tubules, and lymph spaces," which demonstrates we believe, that he arrived at practically the same conclusions.

Ureteral stricture or narrowing of the ureteral lumen due to intrinsic inflammatory changes in the ureteral wall, is a disease far more common and of vastly greater importance than our previous experience has lead us to believe and that it may be the result of a focal infection elsewhere in the body is the theory of no less an authority than G. L. Hunner<sup>5</sup>, who makes this statement, "Experience has taught us that we should expect stricture in any patient complaining of obscure



abdominal symptoms particularly in the lower abdomen and accompanied by pain in the hips and thighs. In addition, we usually find that the patient has a history or shows evidence of tonsillitis, sinusitis, or bad teeth." And he again says when discussing intractable bladder symptoms due to ureteritis<sup>6</sup>, "My experience with ureteral stricture leaves no room for doubt as to the focal infection theory answering for the vast majority of these cases."

Now his conclusions have been arrived at through the study of one hundred cases of ureteral stricture, and a number of cases of bladder ulcer and cystitis. They can, without question, in many instances be charged up against a focus elsewhere. No doubt, in the male, they are dependent in a degree on the condition of the prostate and whether or not stricture of the urethra exists, both tending to interfere with proper drainage.

The bladder may be infected from the kidney, the bacteria being borne by the urine. The kidney may or may not participate in the inflammation and the bacteria may be blood born. Cases of cystitis and extreme bladder distress may also occur with urethritis, in which the gonococcus can be ruled out, and these cases show little or no improvement under the usual forms of treatment although they clear up readily enough when diseased tonsils, or other foci are removed.

In bladder ulcer, and particularly in the type described by Hunner, careful history taking and a thorough search will frequently lead to the finding of diseased teeth, tonsils, adenoids, or sinuses. Metastases may also occur in the prostate and vesicles though they are probably more frequently involved from ascending urethritis.

Urethritis may be due to hematogenous infections and the result of the usual forms of treatment afford little or no relief. The removal of the offending focus being necessary as is demonstrated by the following cases.

**Case No. 1.** R. T. B., age twenty-five, male, single. Consulted us on October 13, 1919, complaining of a slight muco-purulent urethral discharge, and burning on urination. He had first noticed discharge following prophylaxis while in the army on November 19, 1918. Examination made of the discharge at that time was negative to the gonococcus. He had never had gonorrhea. The examination of the prostate and vesicles were negative. Smears made from urethral discharge were negative to the gonococcus but showed a few epithelial cells and an occasional pus cell. There were also present gram positive diplococci that did not have the characteristic morphology of gonococci. Examination of the urine showed a few staphylococci. Urethroscopy re-

vealed an intensely granular, red and sensitive urethra. For about six weeks this patient was treated with silver nitrate solution and with no apparent good results. He was then put on a zinc sulphate solution and had been on this for about two weeks with scarcely any improvement, when he came in complaining of a sore throat at the same time saying that his burning on urination and discharge were worse. The examination of the throat showed a tonsillitis and he had a temperature of 102. He was referred to a throat specialist who later removed his tonsils. Urethral treatments were stopped at this time. We did not see the patient again until four months later when he came in to tell us that his old trouble had all left him. He did not have any discharge, there was no burning on urination, and urethroscopy showed a normal urethra.

**Case No. 2.** J. C. W., age thirty-eight, married. Came to us on June 20, 1920, complaining of a constant sharp pain which seemed to be located at the meatus, a frequent desire to urinate, and a so-called "morning drop." Duration three months. He had had gonorrhea sixteen years ago. Was married ten years ago and has four healthy children. His wife's health is and has always been excellent. Smears and cultures made from the discharge and the prostatic expression were negative to the gonococcus but showed some gram positive diplococci and a few staphylococci. The prostate and vesicles were negative. Cystoscopy negative. Urethroscopy showed a red granular urethra that was hyper-sensitive. On quizing the patient about his past health, he happened to remember that he had lately had several attacks that he called rheumatism in his shoulders. This led us to send him to a throat specialist who reported, strange to relate, that he could find no pathology in his tonsils or sinuses. On examination of his teeth however, we found that he had pyorrhea. An x-ray of the teeth showed three root abscesses. He was referred to a dentist who treated his teeth and extracted the ones with abscessed roots. Acting on the supposition that the urethritis was due to the focus in the mouth, the urethra was not treated and the patient was told to go home and to report back to us in two months. On October 10, he came in. His symptoms had rapidly cleared up. There was now no pain, no frequency, and urethroscopy showed only a very slight redness on the posterior half of the anterior urethra. We saw this patient again in January of this year and he said he was in perfect health. No examination was made of the urethra at this time as he would not permit it, saying that he was perfectly well and saw no reason for it.

These are a few of a number of cases that could be cited to maintain that focal infection is apt to be just as responsible for metastases in the urinary tract as in any other portion of the body. For a number of years, urologists have come more and more to recognize the fact that the genitourinary tract is just as subject to serious and acute sequelæ during or following tonsillitis

as is the heart, the joints, or other portions of the economy.

We have purposely avoided mentioning the complications of tuberculosis or gonorrhea under either of these heads, because pages could be written on these subjects and then merely scratch the surface.

#### CONCLUSION

1. Cases of metastases where the primary focus is situated in the genitourinary tract are usually due to diseased prostate and vesicles. They can be cured by appropriate treatment of the offending members namely, massage, irrigation and vaccines.

2. Metastases in the genitourinary tract, the result of a focus in teeth, tonsils, sinuses, etc., will show great improvement almost immediately upon the treatment or removal of the distant focus.

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#### Discussion of Symposium on Focal Infection

**Dr. Clarence E. Van Epps, Iowa City**—The widespread vogue of the theory of focal infection has a very logical background. A great many infections are focal in origin. Among others we may mention tuberculosis, syphilis and septicemia. It is not to such infections, however, that the theory applies, but rather to those systemic infections of a similar type of which chronic arthritis may be taken as an example. Again, if the focus causes active local symptoms and the systemic effects are very acute, one rarely thinks of it as a focal infection, as in the case of acute rheumatic fever preceded by an acute sore throat. The term applies typically to those conditions in which the focus gives rise to few or no local symptoms. The differences of opinion have arisen not in regard to those cases with an active focus and systemic infection, but in the milder type. The logical background for the theory is furnished by the fact that an arthritis is to be viewed not as a primary malady, but as due to an infection elsewhere. Another factor is the existence of infected tissue especially about the head. Dr. Dean states that 60 per cent of adult tonsils are diseased. By this it is not meant that they are merely contaminated by bacteria, but that they show histologic changes as a result of infection. Again, a definite relation has

often been noted between acute tonsillitis and an arthritis. With these facts in mind, it is logical to consider the tonsil as a focus in many of the milder arthritides. Failure of removal of diseased tonsils to relieve the arthritis does not disprove the etiological relationship. This may be explained by the existence of secondary foci or by the fact that the bacteria transplanted to the joint are leading an independent existence. How much can be promised from treatment of a primary focus must depend upon statistics rather than upon theory. Dr. Dean finds that 60 per cent of tonsils are diseased. Dr. Steindler finds that 1 per cent of the population has or has had arthritis. Evidently, only a small fraction of diseased tonsils cause arthritis. Again, Dr. Steindler finds that only 3 to 5 per cent of arthritis cases are in some degree associated with evident focal infection, and that in only ten to twelve cases has treatment of the focus given definite improvement. These statistics make us conservative as to promising too much or as to urging radical treatment of foci. We have all noted an occasional striking benefit from treatment of a focus, but we have also observed very many failures. This is not a criticism of the theory as to etiology, but it is from the viewpoint of radical treatment. Only when the tonsil is definitely diseased as shown by increased density, reddened anterior pillar and enlarged subangular gland, and when clinically a sore throat has been definitely related to joint symptoms, may relief by radical treatment be reasonably hoped for. What has been said in regard to tonsils holds with much greater truth regarding the teeth. Dental sepsis is said by Dr. Fenton to exist in 80 per cent of people over twenty years of age. Evidently it rarely causes arthritis. Another criterion is the fact that professional men with dental sepsis only rarely have radical treatment even in the presence of active systemic symptoms. Radical treatment in the absence of local subjective symptoms and the presence of merely indefinite systemic symptoms is certainly to be deprecated. Gonorrheal infection of the genito-urinary tract may cause systemic symptoms. It is far from settled that active treatment of the focus is helpful. Regarding the relation of gall-bladder and appendiceal infection to systemic disease, we have little to say. We have personally never observed such a relation nor do our friends the surgeons observe such a sequence. Throughout, I have used arthritis as the typical systemic symptom. Among others to be mentioned are endocarditis, myocarditis, gastric ulcer, cholecystitis, appendicitis, nephritis, and periodic vomiting of children. Sedgwick Schloss and Byfield report that a large percentage of the last condition is cured by the removal of tonsils and adenoids. I would conclude that in cases of systemic infection of which arthritis may be taken as the best example, every effort should be made to find a primary focus. If such a focus is found in a definitely active condition, and a definite sequential relation can be established, radical treatment is advisable. If contrary conditions prevail, a conservative attitude should be adopted.



**Dr. Walter L. Bierring, Des Moines**—The question of focal infection in its relation to chronic arthritis or to the different forms of neuritis and myositis, is still the most prominent in every clinical discussion of the subject. It seems to me that the statistics furnished us by Pemberton in the observation of something over 400 cases of arthritis at U. S. Army Hospital No. 9 at Lakewood, New Jersey, permit of drawing perhaps the best conclusions; this work was carried on under excellent facilities for observation in a hospital under military control and with the help of the very best laboratory assistants in determining sugar tolerance, creatin elimination and other metabolism studies, as well as accurate bacteriological investigation in close cooperation with the chiefs of the several clinical services. He is of the opinion that in the majority of instances a focus of infection is the essential cause of arthritis, and that of the different foci, the dental foci, and the foci about the upper air passages, were the more prominent, although in some instances he gave nearly equal prominence to foci in the gastro-intestinal and urinary tracts. In the general treatment of chronic arthritis, the mistake is often made in relying too much on the removal of the suspected focus of infection. That should necessarily be the first thought, but it should be remembered that this is only eliminating the original cause, and the patient is by no means relieved of the arthritis or in any sense cured, without further systematic care. Arthritic patients present a definite type in that they have to be regarded individually, requiring a plan of treatment that should consider every feature of the patient's condition. I wish that more emphasis had been placed on the relation between focal infection and endocarditis. I believe there is no question but that in endocarditis we have a definite systemic expression of focal infection. Furthermore, that there is a much closer relationship between systemic diseases, particularly heart disease, and gall-bladder infection, than has been emphasized here today. I am sure that with a low grade of infection and absorption of infective toxic matter from a diseased gall-bladder the myocardium gradually becomes impaired, and by the time consent is obtained for removal of the gall-bladder or of the focus in the same, the myocardium has been so damaged that the result is far from satisfactory. And it seems to me that in the various degenerative processes that take place in later life, particularly of the circulatory system, there is nothing so etiologically important as the infective foci that are allowed to remain for a long period of time. I am still unable to say anything definite about the removal of so-called devitalized teeth. It seems to be an open question whether the simple removal of a devitalized tooth is really very helpful in the elimination of systemic infection. It is true that a reaction frequently occurs after removal of the teeth, and the affected joint will ache for twenty-four hours afterwards, but that is no criterion of specific systemic relationship. The simple absorption of blood fibrin would be sufficient to bring about the systemic or

local reaction. Therefore I am in full accord with the spirit of conservatism that was urged so strongly by Dr. Harned in regard to the promiscuous extraction of teeth.

**Dr. Arthur Steindler, Iowa City**—It is about 100 years since Benjamin Rush first called attention to the relation between tonsillar disease and joint disease, and, if I am not mistaken, it is about twelve years since Dr. Billings first published the results of his study of the relation between chronic arthritis and the tonsil. Although a few years afterwards he became more pessimistic about it, this study is still going on, and I hope it will be continued, because it has certainly furnished us with something tangible and definite. All the speakers tonight agree that definite information is to be had, the only question being to what extent. I must say this in regard to treatment of joint conditions. I think the term, curing a chronic arthritis, should be avoided, because it is pathologically impossible to cure a joint, already changed and diseased, by the removal of a primary focus which has been responsible for these changes. On this fact hinges the question as to whether local treatment of the affected joint is dispensable or indispensable. I never saw a joint that could be led to the point of the best possible recovery without local treatment. It is, of course, clear that the removal of a focus will save a joint from exacerbations, and I believe all those engaged in the study of focal infection will concede that the work of eliminating a focus of infection means that the joint will from that time go on to recovery through the forces of nature aided by local treatment. In my opinion, it is preposterous to depend on the removal of the focus alone and to deprive such a joint of the advantages of immobilization. For instance, we have seen joints that are in a state of remission, apparently recovered, after a focus of infection has been removed, and in which apparently the focus of infection had some bearing on the condition of the joint; but we see those joints relapse by virtue of the neglect of local treatment. These joints are never in position to be functionally over-strained, and still the condition of the joint has come to a sort of biological equilibrium. Nobody would think of neglecting treatment of a tuberculous knee just because the patient has evidently overcome his pulmonary tuberculosis. Nobody would dream of allowing a tuberculous knee which shows signs of activity to go unresected just because that patient has no active pulmonary tuberculosis. And in this respect I can detect no difference in the treatment of chronic conditions of the joint due to a primary focus of infection. Whether the removal of the focus is of influence upon the exacerbation of the inflammatory condition of the joint or not, no treatment is adequate which does not give due consideration to the local condition of the joint. And here is the danger we incur by putting our trust in the removal of the focus, which, even if it were in closest causal connection with the joint, would never lead to a biological cure of the condition of the joint if other pathological postulates in the joint are neglected.

So I wish to make the point very strong that no amount of evidence in favor of focal infection of a given joint will ever eliminate the necessity of local treatment for this joint.

**Dr. Frank M. Fuller, Keokuk**—I just want to inject a little remark here to get the history of medicine straight. I understood one of the essayists to say that about thirty years ago Dr. Miller of Berlin first called attention to the relation of the teeth to systemic infection. I happen to have in my possession one of the very first Iowa medical journals, published in my own home town of Keokuk, and in this first number of the first journal published west of the Mississippi river in 1850 is an article on "The Effect of the Teeth on General Conditions," in which the author states that the condition of the teeth may affect not only the alveoli, but every organ of the body and even life itself. And I am only sorry that I did not bring that copy here, because, strange as it may seem, in the year 1850 an article was published in that journal which could have been read on this floor today with practically everything in it that has been said in regard to the effect of diseased teeth in bringing about systemic conditions. I merely present this item just to show that many of the things that we consider modern are of considerable age. The author probably had a prevision of some of the conditions that exist today, but the article, having been published in an obscure journal, has passed out of the knowledge of medicine. I merely arise to enter this as a part of the history in this study of medicine.

**Dr. Dean**—Before leaving the subject I would like to say a few words about what I consider to be the difficulty of eradicating the foci of infection about the nose and throat. So far as the lymphoid masses in the nasopharynx are concerned, I think I made clear in my paper perhaps some of the difficulties involved. In discussing this subject Dr. Steindler used an expression which you possibly did not notice, namely: That if the focus of infection could be eradicated, then such and such a thing might happen. Now, I suspect that Dr. Steindler made that statement because of the numerous cases which he refers to me for the examination and elimination of foci of infection which might be related to the systemic condition, and which exist in the nose, the nasopharynx or the oral pharynx. Every case which Dr. Steindler sends to us in our service for such reason is taken care of to the best of our ability, and is returned to Dr. Steindler with the request that if for any reason he suspects that the foci of infection have not been eradicated he will return the patient to our service. And a surprisingly large number of these cases do come back to our service, and when they return we find the faucial tonsils out clean, the pharyngeal tonsil gone, the lingual tonsil perhaps removed, but still there is a redness of the pharynx, and this redness comes and goes, and anybody who looked at the throat would know that there is left somewhere in that neighborhood, infection. When it comes to the question of paranasal sinus disease,

I do not think it is within the bounds of possibility in every case wherein the paranasal sinus disease has served as a point of focal infection, for the condition to be eradicated and the patient remain in this climate. I know that there are in my service many cases with chronic suppuration of the sinuses in which the paranasal sinus disease cannot be eradicated as long as the patient resides in Iowa. We get rid of suppurative discharge from one paranasal sinus or another, and we may try and convince ourselves that we have a good result, but the patient comes back in a few months, in the fall or spring, with the same trouble present. I do not believe that in the State of Iowa we will, with the best surgical and medicinal treatment, succeed in eradicating 60 per cent of the chronic cases of suppurative ethmoiditis, and of all the paranasal sinuses the ethmoidal sinus is the one which serves most frequently as a focus of infection.

**Dr. Harned**—Dr. Bierring stated that systemic infection does not always clear up on removal of the foci. That is very true. Dr. Steindler emphasized the fact when he stated that knee joints that had once been infected required the assistance of local treatment. In connection with this statement I wish to mention a point in regard to the removal of teeth. In many instances we find a great number of abscessed and decayed teeth associated with gum diseases, inflammation associated with pyorrhea, and gingivitis, and the patient in a very critical state. He may have joint disturbances, heart lesions, and kindred derangements. If in these cases we remove all of the teeth at one sitting, if there should be ten, twelve or fifteen, we are very likely to make that patient much worse, for we have thereby thrown into the system and overloaded it with an excess of pathogenic microorganisms and protein matter that may be absorbed from the wound, which certainly makes the condition worse and may in some instances even prove fatal, especially in cardiac conditions. We should remove these sources of infection gradually and carefully. In certain cases in which joints are affected, and especially if diseased teeth are present, we will procure far better results by removing a portion of the infective foci at a time. The joint becomes worse for three or four days, we have an exacerbation of the local condition, which, however, soon clears up and ultimately becomes a little better than it was at first. If we then inject into the system another vaccination by removing two or three teeth, with a limited curettage perhaps of the bone, we have another exacerbation and the patient again becomes worse, but never quite as bad as he was at first, and his recovery this time is more rapid than it was following the first operation. If we carry out this process slowly we will get the best result in the long standing arthritic cases. I agree, however, that we should have local treatment in addition even though the local focus should be removed. There is another point I would like to mention. In a few referred cases I have noticed that the teeth and infections around about the teeth are more particularly



identified with iritis, neuritis and other nerve lesions, than are the tonsils or the paranasal sinuses. I do not know why this is, but it has been brought to my attention in quite a few cases, and I would ask if any one else has noticed that neuritis and iritis are more particularly associated with diseases in and around the teeth than those of the tonsils and paranasal sinuses, while the tonsils are more particularly associated with muscular rheumatism and myositis. At least this has been my experience. Just a word about Miller of Berlin, who, as far as I can learn, was the first man to give us a systematic study illustrated by a large group of experiments and cases along the line of focal infection originating within the mouth. His articles were of great value, especially to the dentist, and they opened the way to a broader understanding of the subject by both the medical and the dental profession. It may be, however, that many men had thought about it and had written papers on the subject.

**Dr. McAtee**—In my paper I failed to mention vasotomy in connection with treating the seminal vesicles. I think about 80 per cent of cases, in which there is an involvement of the seminal vesicles, are cured by massage, irrigation, and vaccine; the other 20 per cent certainly are cured by vasotomy and the injection of a 5 per cent collargol solution. Vasectomy is I think seldom indicated because vasotomy will take care of those cases that do not respond to massage and vaccine. In regard to iritis, it was formerly the opinion that gonorrhea might produce metastases in the eye. Of late years however urologists have come to the conclusion that iritis seldom occurs as a result of metastases in the genitourinary tract if it occurs at all.

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### AMERICAN SOCIETY FOR THE CONTROL OF CANCER

25 West 45th Street, New York City

Statement made by Dr. Harvey R. Gaylord, one of the Directors of this Society and Director of the State Institute for the Study of Malignant Disease, Buffalo, New York.

The people of the State of New York will want to receive a statement on the stewardship of the purchase of  $2\frac{1}{4}$  grams of radium for which \$225,000 was appropriated by the state, and announcement of which was made by Governor Smith a few days ago.

I am very glad to take this opportunity both in the name of the Institute for the Study of Malignant Disease, the State and the American Society for the Control of Cancer which supported this purchase to say these words:

The experiment in state ownership of a therapeutic agent, as exemplified in the purchase of this radium for social utility will have a far-reaching effect. This is a development of state medicine to which no one can object and Gov-

ernor Smith deserves the thanks of the state for what he did.

Any citizen of the United States may avail himself gratuitously after October 15th of treatment with the  $2\frac{1}{4}$  grams valued at \$225,000 recently purchased by New York State and the first gram of which was delivered by the Radio Chemical Corporation of New York last week. Preference, however, will be given to citizens of New York State.

The first gram is now in the vaults of the Institute at Buffalo and the appliances necessary for its use in the treatment of cancer are now in course of construction. The engagement of a competent physicist to work with this radium is also announced. The radium we are using is an American product, mined in Colorado, brought 2900 miles across the continent in the form of 125 tons of carnotite ore to the extraction plant at Orange, N. J., where it was reduced by fractional crystallization to its present state.

The first purchase of radium by any state marks a step in the health activities of an American commonwealth. Up to the present we have had no therapeutic agents, so expensive that they could not be afforded by the average practitioner. In the case of radium that condition arises. The unit for efficient use costs not less than \$12,000 and represents 100 milligrams. A gram is worth \$120,000. The greater the quantity in an installation the more efficient it is, and the less it costs per treatment. New York State has met this condition by purchasing an amount available for all its citizens.

The value of radium has already arrived at a stage where states, and if necessary the government, should make radium available for cancer treatment, gratuitously and beyond the realm of financial limitations. The advent of radium as a therapeutic measure is the most important forward step in the treatment of cancer.

It is not surprising that when radium first made its appearance over-optimistic claims for its use and hope of its utility should have occurred. But that time is now past. Radium has been made available in smaller and larger amounts to all of the important centers of cancer research in this country, with the result that not alone has new knowledge of this agent been greatly advanced but the technique of its use as well as its limitations have been more definitely defined. The last six years have marked steady progress in its application, and means of more scientifically and more efficaciously employing it have been developed.

The state institute as a result of carefully con-



trolled scientific experiment in its hospital felt that the time had come when the State of New York should logically provide an adequate amount of radium for the institute on the basis that its value is so definitely demonstrated that it should be made available without cost to the citizens of the state and that the opportunities for research should now be extended along practical lines. The state institute has had since 1914 an amount of radium sufficient for scientific study. Private philanthropy has given the Memorial Hospital in New York City a large amount of radium for scientific investigation and practical application for the past four years. The Cancer Research Commission of Harvard University has also had an adequate working supply. The advances made in these and other quarters has steadily strengthened the confidence in the use of this agent and all of these centers are now seeking means to increase their supply.

The State of New York which in 1898 took the lead by founding the first modern state cancer research institute in this country should properly be made the first state to appropriate the necessary funds for the purchase of a sufficient amount of radium for the use of its citizens having available for this purpose a center of cancer knowledge and fully equipped scientific research laboratories where its use can be made immediately effective, and from which scientific progress can be confidently anticipated.

The usefulness of radium in the treatment of neoplasms is still in its infancy, but there are already certain kinds of cancer in which its use offers advantages and the results obtained are an improvement upon any means we have heretofore possessed. It must, however, be remembered that our main reliance in the treatment of cancer is surgery but radium in combination with surgery, frequently greatly improves the prospective cure.

The scientific development of the last two years in the use of radium, largely through the work of Professor William Duane of Harvard University, made available a means of using radium which has immensely strengthened its usefulness. This method is the use of the emanation of radium in place of the application of radium itself. This method is only available when you have at least one gram.

Cancer today is one of the most important diseases in the United States. It increases 25 per cent every ten years. In the United States 90,000 deaths occur yearly from it, being of equal importance to tuberculosis. In New York State about 8000 deaths occur yearly.

The purchase of the radium has other significance than merely its use for the treatment of cancer. It gives an opportunity for research and its use under scientific conditions is sure to increase our knowledge of cancer. While surgery still remains our main reliance in the fight against cancer we can only hope greatly to improve the results of surgery by bringing the patient to surgical treatment at the earliest possible moment. This can only be accomplished by the diffusion of knowledge among the laity of the first beginnings of cancer. It is with such work as this, that the Society for the Control of Cancer has particularly charged itself. It is felt by the society that the advent of an alternative will overcome the reluctance of many cases to present themselves to their physicians. The society represents 900 physicians and laymen and looks with great interest at the purchase and congratulates New York upon the step it has taken.

The purchase of this radium by an American commonwealth from an American company which has mined its ore in the State of Colorado, will bring still further to the fore the pre-eminence of America in the treatment of cancer. Buffalo will become a radium center. While Europe, through Madam Curie, first made the precious element known to the world, the United States has developed both the ore, its extraction and its use as a therapeutic agent. It is today in the forefront of treatment of cancer. This purchase may have a tremendous effect upon further progress in this direction.

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#### PHYSICIANS WHO LOCATED IN IOWA IN THE PERIOD BETWEEN 1850 AND 1860

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D. S. FAIRCHILD, M.D., F.A.C.S., Clinton

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DR. WM. S. ROBERTSON

Dr. Wm. S. Robertson of Muscatine was for many years one of the most interesting figures in Iowa medicine. He came to Iowa when the state was young and developed a vigorous manhood which together with a sense of honor gave him an influence and leadership which continued through a long and useful life. Dr. Robertson was full of physical, moral, and intellectual courage, sound judgment and skill in directing the means of treatment as known in his day.

His work was replete with opinions of European medical men and as a student of letters he was a diversified reader as he read Latin and Greek as well as he did English. The only liter-



DR. WM. S. ROBERTSON

ature now open to him in medicine was from the German but this he got through the Lancet which was and is one of the greatest medical reservoirs.

Dr. Robertson possessed a cheerful and optimistic spirit which fitted him for the trials and difficulties confronting the pioneer. He possessed an unusual personal magnetism and with a fine physical organization he became easily a leader and a worthy successor of his distinguished father, Dr. J. M. Robertson.

Dr. Robertson's sense of public duty led him very early in life to advocate a public health service in Iowa and probably to him more than any other was due the legislative enactments creating the Iowa State Board of Health of which he was the first president.

When Dr. Robertson first came forward with a plan for a Public Health Service but little thought had been given to the subject, and he was met everywhere with an indifference which cannot at the present day be fully appreciated, but his courage, his earnestness and devotion at last prevailed, and a beginning was made in a line of service which will stand foremost in the medical activities of future years. In this struggle, the experience Dr. Robertson had gained as a state senator, and the influence he had acquired in public life, was of great advantage.

Dr. W. S. Robertson was born June 5, 1831 in Georgetown, Pennsylvania. When a boy his father, Dr. J. M. Robertson, moved to Burlington, then the most important city of the southwestern section of Iowa. His preliminary education was obtained in the public schools of that day, later he matriculated in Knox College, Illinois, but before completing his course his health became impaired and he was obliged to abandon his college course. In 1852, Dr. Robertson entered his father's office as a medical student. In 1854, he attended his first course of lectures at Jefferson Medical College, Philadelphia, from which he graduated March 8, 1856.

In the meantime, and even before he began the study of medicine, his father moved from Burlington to Columbus City. Immediately after receiving his diploma Dr. Robertson entered upon the practice of medicine with his father, which continued until the breaking out of the Civil War.

It is to be said of Dr. W. S. Robertson that his interests and activities extended beyond the routine of the practice of medicine, as was true of many of our earlier practitioners. He was more than a practicing physician and surgeon; he was active in all that related to civil life, he was the type of the man of his generation who was able to meet every condition with understanding, firmness, and courage. During the early days of

practice, the conditions in a new country demanded a readiness to meet dangers and exposure unknown to men of this day. Beside the risk of medical practice, the country was infested with outlaws, particularly horse thieves. In certain sections along the Mississippi, they were extremely active. The personal exploits related of Dr. Robertson in hunting these pests of civilization and bringing them to justice, read like the frontier stories that filled our youthful imagination.

In 1858-9, Dr. Robertson joined a military company and devoted considerable time to the study of military science, which prepared him for great usefulness in the days near at hand. With the breaking out of the Civil War, there was pressing need of men of courage, resolution and knowledge to lead our soldiers. Dr. Robertson's training and character fitted him for this service, and on July 13, 1861, he was mustered in as major in the Fifth Iowa Infantry. This regiment did guard duty until called into active service at the battle of New Madrid, March 4, 1862. Major Robertson was honorably mentioned by his commanding officer on this occasion in his official report.

After two years active service, Major Robertson resigned (July 23, 1863) and resumed practice at Columbus City. In 1869 after a winter of graduate study in New York, he moved to Muscatine.

When the medical department of the Iowa State State University was organized at Iowa City, Dr. Robertson was elected chief of the department of the theory and practice of medicine, which position he held to the time of his death, January 20, 1887.

For many years he was a leading member of the Iowa State Medical Society, of which he became a member in 1861, and was elected president in 1873. During his many years of service as a member of the State Medical Society and as a professor in the state university, the doctor gained a body of friends who mourned his loss in a most affectionate manner. The writer recalls the session of the state medical society at Sioux City the year next following his death when a special meeting was called to participate in a memorial tribute of affection and regard.

In 1873 while acting as county physician, Dr. Robertson gave his attention to the sad condition of the feeble-minded children being cared for in the County Poor Farm. Upon visiting other counties he found similar conditions existed. This caused him to bring the matter before the Iowa State Medical Society. He was appointed chairman of a committee to present this subject to the state legislature with the effect that he drafted a





DR. SUMNER B. CHASE

bill "Plea for the Feeble-minded Children of the State of Iowa." This resulted in the state institution which now is housing 1000 patients at Glenwood.

Dr. W. S. Robertson died at Muscatine, Iowa, January 20, 1887.

#### DR. SUMNER B. CHASE

Dr. S. B. Chase was born in Limington, York county, Maine. October 4, 1821 and died in Osage, Iowa, June 19, 1891.

Dr. Chase was one of the number of strong earnest men who laid the foundation of a medical practice in Iowa in the decade between 1850 and 1860; at a time when men of character and physical energy were needed.

Dr. Chase was born of sturdy New England stock; of a generation of farmers. When five years of age, he made his home in Scarborough, availing himself of such opportunities for an education as came in his way. The young man having decided on medicine as his life work, entered the office of Dr. Seth Larrabee, a well known practitioner, as a student and in May, 1849, graduated from the medical department of Bowdoin College. He first located in practice at Portland, Maine. Six years later, or in September, 1855, Dr. Chase came to Iowa and located in Decorah, but a year later moved to Osage where he practiced thirty-five years or until his death in 1891.

The field of usefulness for a trained physician in a thinly settled community as was Osage at that time, and among people who knew but little of sickness, extended beyond the administration of medicine, to public service activities, and in 1856, Dr. Chase was appointed postmaster. In August of the same year, he resigned to accept the office of register of deeds, of the United States Land Office, then located in Osage.

Dr. Chase was a democrat in politics and in 1884 was elected a delegate to the National Democratic Convention which nominated Grover Cleveland for president. Politics, however, was secondary and incidental in his career, and was regarded as a duty. His interest in the profession of medicine was shown when in 1854, he was a delegate from Maine to the American Medical Association at St. Louis.

In 1873, Dr. Chase became a member of the Iowa State Medical Society and in 1881 was elected its president.

Dr. Chase was a kindly man and an ideal family physician. His high character and sympathetic nature brought him a large following of friends and patients. He was a deeply religious man, a free-will Baptist from choice—but a Congregationalist from affiliation. He married Miss

Almira B. Cobb of Limington, Maine. Three sons and two daughters were born to them. One son became a well known physician and a professor in the medical department of the Iowa State University.

We are permitted to utilize in this connection a short biographical sketch of his son, Charles Sumner Chase, which appeared in the Iowa Alumnus for October, 1920.

#### DR. C. S. CHASE

Dr. C. S. Chase, who retires from the headship of the department of materia medica and pharmacology, began his connection with the University of Iowa in 1892, succeeding Dr. P. J. Farn-



DR. C. S. CHASE

worth. Up to now these two men have been the only occupants of this chair since the establishment of the College of Medicine in 1870.

Although Maine is Dr. Chase's native state, he has spent most of his life in Iowa. He received the B.S. degree in engineering from Ames Agricultural College in 1874 and was a student in the department of medicine at the University in 1880-81, previous to his graduation from Rush Medical College in 1882. In 1895 the University of Iowa granted him an honorary degree of master of arts.

For nearly twenty-five years Dr. Chase practiced medicine in Waterloo; fifteen years of this period was coincident with part-time work at the university in non-residence. Later he moved with his family to Iowa City.

Dr. Chase continues his instruction in the col-

leges of dentistry, and pharmacy, and the nurses' training school: but expects to find time to complete a history of the College of Medicine of the University of Iowa covering its first fifty years. He plans to retire from all the colleges with which he has been associated since 1892—June of 1922, thereby completing three full decades of service. He has not at the date of this article definitely decided as to his plans for the future, but may possibly re-engage in general practice for a few years in the City of Waterloo, where he spent so many years of his life most happily.

#### DR. F. C. MAHLER

A complimentary dinner was given Dr. F. C. Mahler of New London by the physicians of southeastern Iowa on the attainment of sixty years active practice. Dr. Mahler has for many years held a high place in the profession of southeastern Iowa. He represents the highest



DR. F. C. MAHLER

type as a physician, and as a man. Through these many years, Dr. Mahler has ministered to the sick in a most unselfish manner, and in early days the exposure and hardships were beyond the understanding of the present generation of physicians. The generous spirit of his medical friends and associates is to be commended in recognizing the merits of the man who has stood as an example of stability, modesty, and unselfish devotion to service.

Through the courtesy of Dr. C. A. Boice, we

are able to present a cut of Dr. Mahler whose face has become familiar to those attending medical societies, particularly the Iowa State Medical Society, and we may cherish the hope that his strength may be conserved for many more annual sessions.

#### THE NATIONAL HEALTH EXPOSITION

The National Health Exposition, occupying 60,000 square feet of floor space, will be held in the Jefferson County Armory at Louisville, February 1-9, 1922. This is under the auspices of the United States Public Health Service, State Board of Health of Kentucky, Jefferson County Board of Health and the Health Department of the City of Louisville. It will include exhibits in hospitalization, nursing, dentistry, medicine and pharmacy. The University of Louisville, the public school system, and various local, state and national health organizations will participate.

The annual conference of the city and county health officers, the annual convention of the Kentucky State Public Health Association and other health meetings are already scheduled in connection with the exposition.

An institute will be conducted by the United States Public Health Service and its program will include:

Dr. M. J. Rosenau, dean of the Harvard School of Public Health; Dr. Josephine Baker, director of the department of child hygiene, New York City Board of Health; Dr. Wm. A. Evans, former health officer of Chicago and the most distinguished public health editor in America; George T. Palmer, president of the Illinois Tuberculosis Association and director of the Bureau of Tuberculosis of the Illinois State Board of Health; Dr. Frederick R. Greene, secretary of the council on health and public instruction, American Medical Association; Dr. Valeria H. Parker, director of the Interdepartmental Board of Social Hygiene; Dr. John H. Stokes, distinguished syphilographer of the Mayo Clinic; Dr. Frankwood Williams, director of the National Association of Mental Hygiene; Dr. W. S. Rankin, state health officer of North Carolina, a member of the council of health and public instruction of the American Medical Association and recently president of the American Public Health Association; Dr. John Dill Robertson, health officer of Chicago; Dr. John R. McDowell, director of health for the Lake Division, American Red Cross; Dr. John R. McMullen, United States Public Health Service, and Miss Frances Brink, director of the National Organization for Public Health Nursing.

Expenses will be paid through the sale of commercial exhibit space to a limited number of reputable firms.



# The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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## THE PREVENTION OF PUERPERAL INFECTION

In England and in the United States, the medical press is presenting many strong papers in support of measures to lessen the excessive mortality from childbirth. It appears to be generally accepted that obstetric medicine has in the last twenty or thirty years made less progress than other branches. This as it appears to the writer, is due largely, to the conditions under which obstetric medicine is carried on. The Report of the Registrar-General for England and Wales for 1919 showed that of the deaths assigned to pregnancy and childbirth, 3,204, in number, 1,208 or 37 per cent were due to puerperal infection. In 1913 when the per cent of infection was 32, Sir Arthur Newsholm declared that "such infection should be as rare in obstetrics as it has become in surgery."

While sepsis is the largest individual factor in deaths from childbirth, there are other, mostly preventable accidents. As observed by the British Medical Journal, puerperal septicemia is almost entirely due to the faulty technique and unpreparedness when the doctor and the nurse come into association with the woman during the first few hours of her labor.

The proper technique is well enough understood by our general practitioners, but it cannot be carried out in the home service. It frequently happens that the practitioner has had no opportunity to make an examination until called when

the woman is in labor, and in his efforts to learn something about his case is liable to infect her, nothing is ready, perhaps a trained nurse cannot be secured, altogether the case does not materially differ from an emergency accident case. As long as obstetric practice is conducted in this manner, the sacrifice of mothers must go on. The remedy is the construction of community hospitals when aseptic midwifery is possible. In cities, where church or other hospitals exist, community functions can be assumed with community aid. Very few of our people need charity assistance, but do need the benefit of a small fee, both medical and hospital, even below the actual cost. Generally this can be secured, but in some of our society hospitals the conditions on entrance discourage some of our less fortunate patients.

If by education and personal influence, the maternity hospital idea could be brought into general operation, an examination and record made, and if need be, a treatment instituted, that would obviate some of the preventable accidents of the puerperal state, and, when labor supervened the principles of aseptic surgery could be employed, the sad and distressing experiences of puerperal septicemia obviated. How long must it be that valuable lives must be sacrificed to save a few dollars in taxes?

Malpractice suits are showing an increased activity. Unfortunately, too many are difficult to defend. It is clearly apparent that the public are holding the profession to a more strict accountability, and are drawing their own conclusions, aided perhaps by unfriendly competitors. A word of caution should be given to those who are installing modern x-ray apparatus. It is being pointed out by the lay press that the modern x-ray is so powerful, that extraordinary precautions are necessary to prevent serious burning of patients, and the courts are holding that an x-ray operator is a highly trained professional technician, and if a physician cannot qualify as an x-ray expert, an accident may be evidence of presumptive negligence.

The increasing difficulties in defending malpractice cases should be a warning to give early notice of a threatened suit, or notice of suit. Recently, we had a case in point, a physician notified Mr. Dutcher that a suit against him was set for only two or three days from the date of message. It so happened that Mr. Dutcher had a case for the same day so Mr. Dutcher wired that doctor to ask his attorney to secure a continuance and he would take up his case. Mr. Dutcher notified the committee of the facts, and the commit-

tee communicated at once with the doctor, explaining the situation, and as the doctor was in good standing in the society offering to take up his case under the rules (inclosing a copy of the rules). Malpractice suits involves so much to the defendant that it is difficult to understand the indifference of certain members of the profession to their own interests.

We have made the rules so simple, and so easy to observe, that there is no good reason why the defendant physician may not at once communicate either with the committee, or our attorney, so that we may set the machinery of defense in motion, and to keep us informed of all the circumstances of the case. It is not only to the interests of defendant, but also to the profession at large.

We have published the rules from time to time in the State Journal, and are here publishing the rules adopted by the defense committee in accordance with the by-laws of the State Society, for the protection of the fund created to defend physicians sued for malpractice.

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#### **RULES GOVERNING THE MEMBERS OF THE IOWA STATE MEDICAL SOCIETY WITH REFERENCE TO THE DEFENSE FUND**

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1. The object and purpose of maintaining a defense fund is not to aid in defeating any just claim which any person may have against any member of this Society for malpractice. The Society recognizes that sometimes mistakes may occur with the most careful and skillful physicians and surgeons, and the Society, through its committee, will use all just and honorable means to bring about a fair settlement of any such cases. The necessity of maintaining such fund arises out of the fact that nine-tenths of the suits brought against doctors for alleged malpractice are little less than blackmail. Experience shows that the great majority of such cases are brought without any purpose of prosecuting them to judgment, but only with the view of forcing the doctor to settle rather than to go to the expense and publicity of a trial.

Every member of the Society is interested in such litigation, because every dollar that is paid upon unjust claims in settlement thereof is encouragement for further attempts to extort money by such methods. In the organization of the defense fund it is the purpose of the Society to aid its members in defending against these attempts at extortion. The expense of making a proper defense is a burden to many members of the Society, and inasmuch as all are interested in defeating unjust claims, it is no more than just that all members should contribute to aid in such defense.

2. It is not intended that the benefits of the defense fund shall be available for the purpose of aid-

ing in controversies over bills for services, and in case an action is brought by a doctor to recover for his services and the defendant simply sets up a counterclaim to the extent of the bill or for the purpose of defeating the bill, asking no affirmative judgment beyond the amount of the bill, such doctors shall not be entitled to the benefits of the defense fund. Where, however, an action is commenced upon a bill and a counter-claim is filed for malpractice, or an independent action is filed for malpractice in which the patient claims a judgment against the doctor in excess of the amount of the bill, then in such case the doctor is entitled to the benefits of the defense fund the same as if no action had been brought by him.

3. Experience shows that many malpractice suits arise out of a controversy over bills for services. For this reason it is the judgment of the committee that in all cases where there is any serious controversy about a bill for service the doctor ought to submit the matter to the attorneys for the association before commencing suit upon the bill. The purpose of such submission is not that they shall render any service toward the collection of the bill, but that from experience in such matters they may make suggestions with reference thereto which may avoid litigation and prevent the commencement of an action for malpractice.

4. Whenever an action is commenced or threatened, the doctor should write to the committee on medical defense, making a full, fair statement of the facts so that they may advise the doctor at as early a time as possible with reference to the action or the threatened action. In many cases advice may be given which will avoid litigation.

5. In all cases where a notice is served upon a member of the Society of a suit or contemplated suit, the same should be sent forthwith to the attorneys for the Society, in order that no disadvantage may result from delay.

6. Members will understand that in the commencement of any action in the district court a notice is served at least ten (10) days before the term for which suit is brought, and that gives plenty of time to communicate with the attorneys for the Society so that rights may be fully protected.

7. In connection with any notice so sent to the attorneys or committee, the members should send at the earliest possible date a full statement of the facts pertaining to the case to the committee, who will communicate with the attorneys as to the course of action to be taken in this particular case.

8. While in most cases which actually come to trial it will be necessary to have local counsel to co-operate with the attorneys for the Society, such local counsel should not be employed until after communicating with the committee or attorneys for the Society. In many instances the cases will be dismissed or otherwise disposed of without trial, so that the expense of local counsel may be avoided.

9. It is of the utmost importance that members of the Society shall be guided by the foregoing rules,



and it is hereby expressly declared that where the member of the Society does not comply with the foregoing rules he shall not be entitled to the benefits of the defense fund, unless upon proper showing to the medical defense committee satisfactory excuse for not complying with the rules is established.

10. The Society will pay for the services of local counsel, provided they are employed under the direction of the regular attorneys for the Society and not otherwise.

11. Members should carefully read these rules, because they must be strictly observed to obtain the benefits provided.

Dr. D. S. Fairchild, Sr., Clinton, Chairman,  
Dr. Lewis Schooler, Des Moines,  
Dr. H. B. Jennings, Council Bluffs,  
C. M. Dutcher, Iowa City, Attorney for the Society,  
Members of the Committee.

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### SMALL-POX IN KANSAS CITY

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The mild form in which small-pox has appeared in the United States during the last few years, has destroyed the healthy fear we have had of the disease in past years, and has made us neglectful of the certain means of safety within our reach. During this recent period, we have been afflicted by a certain class of people who appear to be opposed to the application of scientific methods of preventing disease. The small number of deaths from small-pox in recent years, has encouraged the anti-vaccination propaganda, and to this may be added the natural indifference of the American people to safety provisions. But recent indications show that high mortality is not altogether of the past. This is shown in the recent outbreak of small-pox in Kansas City, where, during the months of September, October and November not less than 100 deaths from the disease have occurred. From September to November 16, forty-three deaths have been reported. During this period 149 cases have been admitted to the isolation ward of the Kansas City General Hospital.

The first official report showed that fifty had never been vaccinated, twenty from three days to eleven years before onset of disease marked "no take" which means not successful vaccinations. Successful vaccination scars from six to sixty years, twelve. Only one critical case was reported with a successful scar, vaccination administered thirty-two years ago.

Number with successful scar four days previous to onset of disease four. Number whose vaccination and disease occurred at the same time two.

Two-thirds of the cases are confluent small-pox and the remainder hemorrhagic and discrete.

An interesting fact is stated in the Kansas City Star for November 15. "In these schools where the majority of the children are of foreign parentage, the response to the vaccination order is almost 100 per cent. This is due it is said, to the fact that alien born persons have been accustomed to vaccination."

The official report on November 15 gives the number of deaths from small-pox as sixty-three which will bring the number of deaths at the close of November well above 100, a loss of life altogether unnecessary; a sad commentary on American foresight.

Report November 27 gives the whole number attacked by the disease 263; deaths 93; death rate about  $33\frac{1}{3}$  per cent.

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### IOWA STATE UNIVERSITY NEWS

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Dr. Don M. Griswold

Dr. Lawson G. Lowrey, assistant director of the State Psychopathic Hospital, gave an address before the Kansas State Committee on Mental Hygiene at Topeka, December 8.

Miss Helen Stewart, director of public health nursing, Miss Anna Drake, of the State Tuberculosis Association, and Dr. C. S. Grant, of the State Board of Health, have been appointed a committee to investigate the organization of a bureau of public health nursing in the state department of health.

The Johnson County Health League recently held a meeting in Iowa City to further the cooperation of the various voluntary health agencies in the county, to eliminate overlapping and duplication, and to encourage the work in all fields of public health.

Miss Nelle Morris has been added to the staff in the school of public health nursing, to have charge of the training of public health nurses in rural hygiene and county nurse work.

Miss Jessie Chapman is organizing her work as city public health nurse so that the nurses in the school of public health nursing will have practical experience in municipal health work during their course of training.

Miss Mabel Green has recently been added to the staff of school of public health nursing and will have charge of the school nursing course and will also carry on practical work in the parochial schools of Iowa City.

Plans are already under way for a Christmas tree at the children's hospital. Friends from various parts of the state who have the interests of these crippled children at heart, are sending Christmas cheer in various forms to these little patients. Miss



Averth, supervisor of nurses at the children's hospital, says that in the past they have received far more candy than the children could digest and that the things they enjoy the most are toys that "will go."

The Y. M. C. A. are showing their interest in the little folks at the children's hospital every Friday evening by furnishing a reel of moving pictures, and piano player or violinist. These pictures and this music is especially selected for children and is very much appreciated by the little patients. Each Sunday afternoon the Y. M. C. A. hold a concert at the children's hospital, using the piano which was furnished the hospital by the Y. M. C. A. of the University. Children's songs and stories make up the program which is very much enjoyed by the patients.

Dr. R. V. Funston, formerly assistant in the department of orthopedics, has been made instructor in that department.

Dr. Randolph Reynolds of New Haven, Rhode Island, a recent graduate of Columbia Medical School, has been appointed interne in the department of orthopedic surgery.

Dr. D. R. Tilson, a recent graduate of Bellevue Medical College, has been appointed second assistant in the department of orthopedics.

Earl Waterman of the extension division, and Dr. Don M. Griswold, college of medicine, attended the annual meeting of the American Public Health Association in New York, November 8 to 18. Dr. Griswold was elected a member of the governing council of the organization.

Dr. James Thompson, a former student in the medical college, died recently at North Yakima, Washington.

A committee of the faculty of the University of Belgrade, Servia, that is in this country studying the organization and operation of the leading medical schools, spent two days in Iowa City. The commission is composed of Dr. Nicholitch of the ministry of public health. Dr. Stanovic, professor of internal medicine, and Dr. Johnivitch, professor of pathology.

The public health education section of the extension division recently sponsored a tour of the "Health Fairy" of various cities of the state. This rather unique way of presenting health facts to children met with hearty responses wherever the plays were shown.

The first examination of the National Board of Medical Examiners, under the new plan, in parts I and II will be held as follows:

Part I, February 15, 16 and 17 (1922) inclusive.

Part II, February 20 and 21 (1922) inclusive.

Applications for examination should be received no later than January 15, 1922. Application blanks and circulars of information may be had by writing to the secretary, Dr. J. S. Rodman, 1310 Medical Arts building, Philadelphia, Pennsylvania.

## SOCIETY PROCEEDINGS

### Audubon County Medical Society

The Audubon County Medical Society met Friday afternoon in the office of Dr. R. F. Childs, in a regular business session. The greater part of the meeting was taken up with a discussion regarding the fee bill, which was lowered and reconstructed. The yearly election of officers was also held. Dr. Jacobsen of Exira was elected president, Dr. W. H. Hal-loran, vice-president and Dr. R. F. Childs, secretary and treasurer.

### Austin Flint-Cedar Valley Medical Society

The meeting was called to order by the president, Dr. Peters, at 10:00 A. M., November 8 at Fort Dodge. The minutes of the last meeting were read and approved. The morning program was given as follows:

Surgical Injuries to the Bile Passages—Dr. A. E. Acher, Fort Dodge.

The Diagnosis of Epidemic Encephalitis—Dr. C. G. Field, Fort Dodge.

Pre-operative Management of Prostatitis—Dr. A. A. Schultz, Fort Dodge.

These three papers were most excellent and were freely discussed. Dr. A. G. Shellito requested to give his paper following Dr. Schultz' paper rather than wait for the afternoon program in order that he might make more convenient train connections home to Independence. The society gladly granted his request and his paper on Conservative Surgery in the Female Pelvis was read and discussed. The meeting then adjourned for the lunch hour.

At 1:30 P. M. the members reassembled and Dr. W. L. Bierring of Des Moines presented a medical clinic. Some of the cases were as follows: Trans-position of the heart; cerebral tumor; cerebellar tumor; mitral stenosis with mitral regurgitation; gall-bladder disease; and a very interesting case from South Africa which was considered to be a form of hydatid disease of the liver.

Great credit is due the members of the Fort Dodge medical profession for the excellent way in which the histories, laboratory findings, physical findings and x-ray plates were presented at the clinic. The clinic was a thorough success from every standpoint and a keen interest was shown by those in attendance.

Dr. J. T. Strawn and Dr. Oliver J. Fay, both of Des Moines, did not reach the meeting in time to appear on the program and later word informed the society that they were unable to get to Fort Dodge by auto as they started to do.

The business meeting was held following the medical clinic. Dr. Small, chairman of the committee on the revision of the constitution and by-laws, reported. The following amendments to the by-laws were offered:

1. Chapter 5, funds and expenses, amendments to insert the words "two dollars" instead of "one dollar," so that the chapter shall read: "The admission fee to membership in this society shall be two dollars."

An amendment was also offered that the dues be changed from one dollar to two dollars per year. This amendment was seconded by Dr. Gardner. Dr. Small recommended that the secretary read the constitution and by-laws in order that those present might have an opportunity to make suggestions for amendments which could be referred to the committee on revision for action. It was moved by Dr. Studebaker that this be done and the motion was seconded by Dr. Gardner, following which the constitution and by-laws were read by the secretary. Further amendments offered were as follows:

Dr. Small amended chapter 5 to include the words "and annual dues" after the words "admission fee to membership." This was seconded by Dr. Kenefick. Dr. Kern amended chapter 3, section 2, by adding "to deliver annual address at the annual midsummer meeting." Seconded by Dr. Small. Dr. Small moved that the midsummer meeting only last two days as called for in the by-laws, chapter 2, section 1. This was seconded by Dr. Gardner. Carried. The secretary was instructed to have all offered amendments printed in the next program, as well as the names of the physicians who applied for membership at this meeting. Dr. Kenefick discussed the question of the board of censors, and, in view of the fact that the last three presidents were Dr. Kern, Dr. Landon and Dr. Phillips, the point was made that these three men should now compose the official board of censors.

The following applications, which were presented at the midsummer meeting in Clear Lake in 1921, and which had been approved by the board of censors, were read by the secretary for election to membership: Dr. E. Henely, Nora Springs; Dr. H. W. Barbour, Dr. A. H. Chilson, Dr. Geo. M. Crabb, Dr. L. R. Woodward, Dr. C. B. Tice, Dr. B. Raymond Weston, Dr. O. Franchere, Mason City; Dr. Leslie Fenlon, Clinton; Dr. T. A. Maher, Bancroft; Dr. R. N. Reuber, Klemme; Dr. C. C. Wiggins, Osage; Dr. A. E. Conrad, Decorah; Dr. N. O. Dalager, Dr. Jane McIntosh Wright, Dr. E. L. Wurtzer, Dr. F. A. Barber, Clear Lake.

It was moved by Dr. Small that a vote on all of these applicants be taken by ballot and if any "noes" were found in the official tabulation of the ballot, then a vote would be taken separately on each applicant. This was seconded by Dr. Studebaker and the ballot taken. All applicants were unanimously elected to membership.

The following applications for membership were received at this meeting: Dr. E. W. Kersten, Dr.

A. A. Schultz, Dr. Geo. Gibson, Fort Dodge; Dr. R. S. Fillemore, Corwith; Dr. L. G. Patty, Carroll; Dr. A. W. Patterson, Dr. A. P. Maloney, Fonda; Dr. R. F. Etienne, Dr. Forest F. Hall, Webster City; Dr. Garner F. Parker, Pocahontas; Dr. E. B. Johnston, Clear Lake; Dr. A. W. Beam, Rolfe, Dr. Chas. L. Jones, Gilmore City; Dr. T. J. Kelley, Marathon.

The secretary was instructed to look up an amendment which the members thought was passed about three years ago making the president the chairman of the program committee. Dr. Gardner invited the society to hold its midsummer meeting, next July, at New Hampton. It was moved by Dr. Kern and seconded by Dr. Small that the invitation be accepted. Carried.

It was moved by Dr. Small that the meeting be adjourned to reconvene in case Dr. Strawn and Dr. Fay of Des Moines arrived but to remain adjourned if they did not come. Seconded by Dr. Studebaker, carried. The meeting adjourned to remain adjourned as the physicians did not arrive.

A most delightful banquet was served at 6:30, which was well attended and those present expressed much enthusiasm over the singing, toasts and readings that were given. A jazz orchestra furnished music during the banquet which made it rather difficult for some of the members to remain in their chairs.

L. A. West, Sec'y.

#### Chickasaw County Medical Society

At a meeting of the Chickasaw County Medical Society held November 23, the following officers for the ensuing year were elected: President, L. P. Reich, Fredericksburg; vice-president, M. J. McGrane, New Hampton; secretary-treasurer, Paul E. Gardner, New Hampton; delegates, N. Schilling and L. P. Reich.

#### Clarke County Medical Society

The Clarke County Medical Society held their regular November meeting at the city library Tuesday evening, November 29. The meeting was called at 1:30 when the president of the society, Dr. H. L. Hollenbeck, introduced Dr. B. L. Eiker of Leon. Dr. Eiker addressed the meeting on The Doctor and the Public School and many of the points in connection with this most important subject were touched in Dr. Eiker's address. Members of the school board of the City of Osceola had been invited by the county society to hear Dr. Eiker, and they were impressed with the important part the medical profession plays in modern school problems. Miss Rose Kirby, county Red Cross school nurse, was also an invited guest of the society.

Following Dr. Eiker's talk Dr. Samuel Bailey of Mount Ayr brought up and discussed the Problems of the Medical Profession. Dr. C. E. Bamford of Centerville, the head of Bamford Clinic, addressed the physicians on Fractures of the Long Bones from a Surgical Standpoint.

Doctors from Winterset, Murray, Indianola, Leon,

Grand River, Garden Grove, Leroy, Woodburn, Lormor, Mount Ayr, Centerville and Humeston were present at the meeting.

#### Clay County Medical Society

The Clay County Medical Society entertained the members of the Upper Des Moines Medical Society at a banquet at the Hotel Tangney Thursday, December 1. All doctors in Clay county and all members of the Upper Des Moines Society, of which there are fifty-three, were invited to attend and in addition representatives of the various civic organizations in Spencer were extended special invitations.

At five o'clock a business meeting of the doctors was held in the Commercial Club rooms and election of officers took place. There was a presentation of case reports and miscellaneous business was transacted at this meeting. The banquet was at seven o'clock in the hotel dining room, and a special program followed the dinner.

President Wilson Cornwall, speaking on behalf of the Spencer Commercial Club, made the address of welcome, and there were talks by Dr. George Donohue, superintendent of the State Hospital at Cherokee on The Advisability of Voluntary Commitment to the State Hospital for the Insane; by Dr. J. J. Strawn of Des Moines on The X-ray in Gastric Lesions; by Dr. E. W. Sproule of Peterson on Calcium Metabolism; and by Dr. E. E. Munger of Spencer on Our Health.

#### Johnson County Medical Society

At the December meeting of the Johnson County Medical Society, the officers elected for 1922 were: President, J. H. Wolfe; vice-president, George C. Albright; secretary-treasurer, Lawson G. Lowrey; delegates, H. J. Prentiss and W. F. Boiler; censor, N. G. Alcock, all of Iowa City.

#### Ringgold County Medical Society

A meeting was held by the Ringgold County Medical Society recently. On the program were a number of doctors from outside. Those present being Drs. H. S. Forgrave and E. S. Ballard of St. Joseph, Missouri, M. Bannister of Ottumwa, and G. N. Ryan of Des Moines. There was a large attendance.

#### Scott County Medical Society

At a recent meeting of the Scott County Medical Society, the following officers were elected for the ensuing year: President, B. H. Schmidt; vice-president, H. P. Barton; secretary, W. E. Foley; treasurer, S. G. Hands; delegates, A. P. Donohoe and W. C. Goenne; censor, E. O. Ficke, all of Davenport.

#### Story County Medical Society

The regular meeting of Story County Medical Society held at the Sheldon-Munn in Ames Wednesday evening November 30.

There were physicians from Nevada, Roland, Collins, Story City and Maxwell in addition to a large

number of the Ames physicians, attending the meeting, which followed a dinner in the hotel dining room.

There were some interesting talks upon current professional topics by Story county men. Dr. Graham of Collins gave a paper on The Phantom Tumor. Dr. Snyder of Roland on Rheumatism and Adamson of Ames on Pneumonia.

Those physicians present at the meeting aside from the seven Ames doctors were Smith, Conner and Houston of Nevada, Graham of Collins, Snyder of Roland, Joor of Maxwell and Haream and Harmon of Story City.

#### Van Buren County Medical Society

The annual meeting of the county society will be held in rest room, Keosauqua, Thursday, December 8. If weather and roads are unfavorable, meeting postpones to Monday, December 12. Time 1:30 P. M.

This is the meeting at which we elect our officers and attend to such other business as shall come before our annual meeting.

For our program, we have Dr. W. B. LaForce of Ottumwa, who for several years has been engaged in medical and missionary work in China. His talk will be Medical and Other Conditions in China. Dr. LaForce is an entertaining speaker and his topic is something new and we are assured that we will hear something worth while. As his work has been missionary as well as medical, and deeming that part of his message will be along religious lines, you are requested to invite the ministers and any others who are interested along this line. Especially bring your wives.

We shall look for you. It is due Dr. LaForce that we give him a large and appreciative audience.

C. R. Russell, Sec'y.

#### Wapello County Medical Society

The Wapello County Medical Society held its annual meeting December 5 at the Ballingall Hotel, following a dinner and smoker at which twenty-eight members were present.

Dr. Frank W. Mills, was elected president, Dr. L. A. Hammer, vice-president, Dr. H. W. Vinson, secretary and treasurer. Dr. J. F. Herrick was chosen as the delegate to the convention of the State Medical Society, with Dr. W. C. Newell as alternate. Dr. Murdock Bannister was elected a member of the board of censors.

After the business meeting, interesting talks were made by Dr. O. A. Williams, and Dr. C. A. Henry of Farson. The Ottumwa physician spoke reminiscently of the Wapello County Society in the earlier years of its organization. Dr. Henry's subject was The General Practitioner.

The doctors and dentists of Shenandoah enjoyed a 6 o'clock dinner at the Delmonico Hotel, Friday evening, November 11. Those present were: Dr. J. F.



Aldrich, Dr. T. L. Putman, Dr. W. F. Stotler, Dr. M. O. Brush, Dr. E. J. Gottsch, Dr. Benjamin Barnes, Dr. J. D. Kerlin, Dr. L. W. Lewis, Dr. H. N. Richardson, Dr. J. M. Van Buskirk, Dr. J. D. Bellamy and Dr. E. S. White. Dr. Putman, president of the organization was in charge and a general discussion was conducted after the dinner hour.

#### Southwestern Iowa Medical Society

The forty-sixth annual meeting of the Southwestern Iowa Medical Society was held at Fort Madison, October 20, 1921. Dr. Edward LaForce, president, in the chair.

Following the address of the president, Dr. C. A. Boice of Washington read a paper: The Small Hospital; Is it Worth While? Dr. J. H. Chittum of Wapello read a paper: Laboratory Service for the Country Doctor. Dr. D. C. Brockman of Ottumwa; The Sins of Omission are Greater than the Sins of Commission. Dr. C. H. Magee of Burlington; Some Phases of Prostatectomy. Dr. Richard L. Sutton of Kansas City presented a discussion on Carcinoma of the Nose and Face, illustrated by lantern slides.

Officers elected: President, Dr. O. A. Geeseke of Mt. Pleasant; vice-president, Dr. J. Spillman, Ottumwa; secretary-treasurer, Dr. J. B. Crow, Burlington. Place of meeting, 1922, Burlington. There were about fifty members present.

#### Northwestern Iowa Medical Society

Regular fall meeting held at Sheldon, Iowa, Wednesday, October 26, 1921, with a banquet at Hotel Myers at 7 P. M. Meeting called to order at Commercial Club rooms at 8 P. M.

Order of business: Call to order by the president. Reading of the minutes of the last meeting. Unfinished business. Miscellaneous business, including election of new officers. Papers and discussions. Cyclic Vomiting, report of a case, Dr. R. G. Mellen. Syphilis, Dr. G. L. Roark. Treatment of Gonorrhea, Dr. A. J. McLaughlin, Sioux City. Blood Transfusion, Dr. W. W. Cram.

Clinical cases. Announcements. Adjournment.

Committee on local arrangements: Drs. Brackney, Myers and Brock.

Officers: H. J. Brackney, president, Sheldon; J. W. Myers, vice-president, Sheldon; Jay M. Crowley, secretary-treasurer, Rock Rapids. Censors: E. W. Boslough, George, 1921; J. F. McAllister, Hawarden, 1922; H. L. Avery, Primghar, 1923; D. G. Lass, Ocheyedan, 1924.

#### ORTHOPEDIC SURGEONS MEET IN IOWA CITY

On November 11, the University and Children's Hospitals at Iowa City, Iowa, were honored by a visit of one of the largest groups of distinguished men who have ever gathered there. At this meeting of the central states, Orthopedic Club which em-

braces the orthopedic field from Buffalo west to the coast, all were interested in seeing the work carried on by Dr. Steindler and his staff.

There is possibly no institution in the country where there is being done more orthopedic work on the upper extremity, and about one-half of the program was devoted to this subject. There was a large series of demonstrations of post-operative cases. The greater part of the program was conducted by Dr. Steindler. There was also a very interesting talk by Dr. H. Winnett Orr, Lincoln, Nebraska, and demonstrations by Dr. R. V. Funston of the children's hospital. Miss Prosser gave a talk on muscle education in upper extremity surgery.

Following the meeting there was a banquet at which moving pictures of operations and cases were shown. From Iowa City the visitors proceeded to Kansas City where the remainder of the meeting was held.

#### HOSPITAL NEWS

Members of the staff of Mercy Hospital, Fort Dodge, were the guests of the Sisters of Mercy at dinner Monday evening, October 31 on the occasion of the annual meeting. The present officers were all re-elected for the coming year. Dr. C. J. Saunders, president; Dr. Robert Evans, vice-president; Dr. A. A. Schultz, secretary-treasurer; Dr. W. W. Bowen, chairman of surgical staff. Dr. Edward Evans of LaCrosse, was a guest of the Fort Dodge doctors. Dr. Evans gave a very able talk on hospital problems. Dr. A. H. McCreight acted as toastmaster and the following talks were given by members of the staff. Recent Progress of Our Hospital, by Dr. Edward Beeh; Duties of Staff Towards Hospital," Dr. Saunders; Medical Co-operation, Dr. A. E. Acher; Importance of Full Records, Dr. W. W. Bowen; Duties of the Teaching Staff, Dr. E. Kersten; Hospital Laboratory Advantages, Dr. S. D. Jones; Co-operation of Nurses, Dr. S. B. Chase.

At the second annual banquet and meeting of the officers and the Mercy Hospital staff, Dubuque, Wednesday night at the institution, Dr. M. J. Moes, was elected president of the organization; Dr. W. A. Johnston, vice-president, and Dr. C. E. Lynn, secretary-treasurer. The retiring officers are Dr. W. A. Becker, president; Dr. M. J. Moes, vice-president; Dr. R. R. Harris, secretary, and Dr. J. M. Walker, treasurer.

Dr. J. C. Painter, medical director of the Sunny Crest Sanatorium, was at the banquet and spoke highly of that institution, which had been provided by the people of Dubuque county. He urged the local physicians to co-operate with him in his work and make the local sanatorium rank first among such institutions in the State of Iowa.

Miss Amy Beers, superintendent of the Jefferson County Hospital, was elected president of the Iowa

State Nurses Association at the association's annual convention at Iowa City, November 3.

A quiet zone about Finley Hospital, Dubuque, is to be established in the near future, and signs erected by the Finley Hospital directors, warning autoists to this effect, action taken by the city council Friday. Permission was given the hospital to erect these "quiet zone" signs.

Over \$6,000 worth of radium, the property of Dr. Joseph W. Rowntree, has disappeared from Presbyterian Hospital, Waterloo. Dr. Rowntree had been using the precious material in the treatment of a cancer case. The radium was first discovered missing Tuesday evening, October 25, and since that time a still hunt has been made, but without results.

Dr. Erskine, Cedar Rapids, is in the city and using an electroscope in an attempt to find the missing metal. Yesterday, the patient's room, the ashes from the building and the laundry were gone over thoroughly with this instrument; but without success.

The latest development in the search is a consideration of the plan to erect a cofferdam at the mouth of the Sixth street sewer, which serves the district in which Presbyterian Hospital is located, and pump out the water.

Firemen from the city stations yesterday raked the mouth of the sewer, but no trace of the lost metal was found.

As soon as the radium disappeared Dr. Rowntree notified the insurance company in New York. Immediately plans were set in motion along the line of a search in the hope of recovery. The monetary loss involved is nothing compared to the loss to humanity in general, as the supply of radium is limited to five ounces in the whole world.

Miss Bernice Carlson departed Monday for Ainsworth, Nebraska, where she has taken the position of superintendent of the Ainsworth Hospital.

The hospital is a new building just completed. A three story building with full basement. The hospital has sixteen rooms for patients, has an x-ray apparatus and is thoroughly equipped throughout, with all modern hospital conveniences. Miss Carlson will be in charge. She is well qualified for the position, and her friends wish her the fullest success.

The North Iowa Clinic, staff to St. Luke's Hospital, held its first annual meeting with election of officers as follows:

Dr. C. E. Chenoworth, president; Dr. A. B. Phillips vice-president; Dr. C. M. Franchere, secretary-treasurer. The resignation of Dr. A. C. Echternacht was tendered and accepted at this meeting.

The Park Hospital at Mason City has added three new physicians to its staff, Dr. C. E. Dakin, Dr. V. A. Farrell, and Dr. H. D. Holman.

## MEDICAL NEWS NOTES

The Physicians-Surgeons Exchange of Sioux City, which has been in operation four months, was unanimously indorsed by the Woodbury County Medical Society at its meeting at the West Hotel.

This exchange is at the service of the public, day and night, without charge. Anyone unable to locate their physician may call the exchange but must name the particular physician desired and information will be given provided the physician is a member of the exchange.

Dr. J. C. Painter, recently of the State Tubercular Hospital at Kearney, has been named medical director of Sunny Crest, Dubuque county's institution for treatment of consumption. Doctor Painter has assumed his new duties.

The new medical director is known as one of the foremost authorities on tuberculosis in the country. He is a graduate of Rush Medical College and holds a B.S. degree. In war time Doctor Painter was a captain in the United States Medical Reserve Corps.

Sunny Crest now has seventeen patients. Its capacity is forty.

Three Serbian doctors accompanied by representatives of the Rockefeller Foundation arrived in Des Moines October 29, 1921 to inspect local health center methods.

The party includes Dr. George J. Nicholich, assistant minister of public health, Jugo-Slavia, Belgrade, Serbia; Dr. Radenko Stankovich, professor of internal medicine, University of Belgrade; Dr. George Joannovich, professor of pathological anatomy, University of Belgrade; Dr. H. J. John, a Bohemian surgeon, who is official interpreter for the party, and Mr. Stubbs of the Rockefeller Foundation.

The Serbians are making a tour of the United States to study organized charities. They were in the city only one day, as guests of the Greater Des Moines Committee at Des Moines Club Saturday noon and of the Public Welfare Bureau at their "pep" meeting at Chamber of Commerce Saturday evening. They will inspect the Health Center, Saturday afternoon.

The Serbian commission, representing one of the most progressive of the little governments overseas, visited the College of Medicine, Iowa University, its laboratories, anatomy department, amphitheatres, hospitals, etc.

The visitors represent great institutions, and are studying the work of the able superintendent of the hospital, Dr. A. J. Lomas; of Dean L. W. Dean, the efficient chief of the college, and of the many other heads of departments, etc.

They came here, at the suggestion of the Rockefeller Institute, which recommended only a few other "high lights" in medical college activities—Cleveland,



Ohio; St. Louis, Missouri, and Rochester, Minnesota, being the only others or almost the only other hospitals thus honored.

Dr. Henry A. John of Cleveland, and Dr. Frank Bernard Stubbs of the Rockefeller Foundation, New York City, are introducing the distinguished visitors, and President Walter A. Jessup, Dr. John T. McClintock, Dr. Henry J. Prentiss and other S. U. I. leaders will assist in entertaining them.

These gifted savants are as follows: Dr. George J. Nicholich, assistant minister of public health, Belgrade, Serbia (Jugo-Slavia).

Dr. George Joannovich, professor of pathological anatomy, Belgrade.

Dr. Radenko Stankovich, professor of internal medicine, University of Belgrade Medical School, Belgrade.

Dr. Arthur Steindler of Iowa University's Hospital, conducted a free clinic at Winterset, Iowa, under the auspices of the Red Cross and the Madison County Medical Association. Many people, with hip deformities, etc., consulted him. Dr. Steindler was an assistant of Dr. Lorenz of Vienna.

Notice is hereby given that the Kossuth County Physicians' Credit Association has been organized as a corporation under the laws of the State of Iowa; that said corporation is named and known as Kossuth County Physicians' Credit Association; that its principal place of business is at Algona, Kossuth County, Iowa; that the general nature of the business of said corporation shall be the promoting, acquiring, possessing and disseminating of useful business information including the credit standing and financial responsibility of prospective or actual clients or patients of any of the members of this corporation; adjusting controversies and misunderstandings which may arise between any members of the corporation, and the collection of any bills, debts or accounts owing to any member of this corporation.

The authorized capital stock of this corporation is \$300 divided into shares of \$10 each to be fully paid in cash and not less than \$100 of said capital stock shall be subscribed and paid for at the time of the commencement of the business of said corporation, the remainder of said stock to be subscribed and paid for as the board of directors of said corporation may hereafter provide.

The corporation will begin business on the date of the issuance of its certificate of incorporation by the secretary of state and will terminate at the expiration of twenty (20) years unless sooner dissolved by two-thirds vote of the stockholders.

The affairs of the corporation shall be conducted by a board consisting of five directors all of whom shall be stockholders of said corporation.

The officers of said corporation shall consist of a president, vice-president, secretary and treasurer, said officers and directors shall be elected as provided by the by-laws of said corporation.

The highest amount of indebtedness to which this

corporation may at any time subject itself shall not exceed two-thirds of its paid up and outstanding capital stock; that the private property of the stockholders of said corporation is exempt from its corporate debts.

Dated this 15th day of November, 1921.

Signed, Kossuth County Physician's Credit Ass'n.

C. H. CRETZMEYER, President.

M. J. KENEFICK, Secretary.

The local telephone company, with the cooperation of the doctors of the city, has just made an innovation that is sure to prove popular. It is a plan whereby one may locate his physician quickly at any hour of the day or night, and without standing at the phone for an hour or so in the endeavor.

What is called a doctor's exchange has been established. A special department at the central office is informed at all times as to the whereabouts of every physician in the city, and simply by calling number 116 and naming the doctor wanted, one will quickly be put in communication with him, whether he is at home, at his office, hospital, church or club. In case he is out of the city or on a lengthy call that information will be given also, so that the one who seeks him will know just when his services will be available.—Cedar Rapids Tribune.

## PERSONAL MENTION

Col. D. S. Fairchild of Clinton, who is known among a large circle of friends in Cedar Rapids, and more especially among former service men and veterans of the Spanish-American War, has become chief surgeon of the Panama district. Word has reached Clinton, his former home, that he with his wife and son, are now at the new post. Regarding his appointment to this post the Clinton Herald says: Friends in Clinton, mindful of the genius for organization, and applied science for sanitation displayed by Col. Fairchild on the Mexican border and later with the Rainbow Division in France, are not surprised that his period of devotion to reconstruction problems should have brought this still greater honor. He will have direction of all the military hospitals in Panama and will have the authority to so regulate the zone as to make it a marvel of sanitation in its relation to U. S. A. activities there. Col. Fairchild had completed the reconstruction work at Washington and it has been a vast organization. The medical reserve corps plans call for medical officers sufficient for an army of one million men. This corps is made up of men who were in actual service during the late war or were enlisted for actual service and their rank in the reserve corps is that which they held in the army when war activities ceased. Appointment to the reserve corps is established by military rule and the precedent is not broken except through special act of the administration. Appointees are not forced to accept such appointments but those men who did not accept the



appointment have lost their opportunity for the reserve corps is filled.—Cedar Rapids Times.

Captain J. M. Weiss, formerly a practicing physician at Knoxville, Iowa, has been ordered to the Philippine Islands. Dr. Weiss enlisted in the medical corps of the army at the breaking out of the war; was stationed at Camp Grant. After the armistice, was mustered out, but later re-entered the service.

Dr. Hugh Jenkins of Preston has arranged to spend the winter at Tucson, Arizona.

Dr. Granville Ryan of Des Moines has been elected president of the City Club, a social organization for business men.

Dr. R. S. McClinton, a graduate of the Detroit College of Medicine and Surgery, has purchased the practice of Dr. W. F. Hamstree of Sioux Rapids.

Dr. Paul Gardner of New Hampton was elected president of the American Railway Surgical Association which held its annual meeting in Chicago, October 18, 19, and 20. Dr. Gardner has been an active member for many years and was clearly entitled to direct the affairs of this most important railway surgical association for the coming year.

Dr. E. R. Shannon returned today from Philadelphia, Pennsylvania, where he attended the American College of Surgeons' annual meeting. Drs. F. T. Hartman, E. F. Stevenson and T. F. Thornton were also in attendance.

Dr. and Mrs. H. C. Eschbach departed recently for New York City where the Doctor will do some public health work after which Mrs. Eschbach will go to Oneida, New York, to spend Thanksgiving with her father.

Dr. and Mrs. Thomas B. Throckmorton have gone to Chicago, where the former will attend a conference of Constituent State Medical Associations as secretary of the Iowa State Medical Society. From Chicago, Dr. and Mrs. Throckmorton will go to Milwaukee to attend a meeting of the Tri-State Medical Society.

A fellowship in the American College of Surgeons, the highest surgical honor, was bestowed upon Dr. Charles Ryan, 812 Forest avenue, Des Moines, while in attendance at the meetings of the Surgeons of North America in Philadelphia.

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### MARRIAGES

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Dr. D. Powell Johnson, formerly of Muscatine, and Miss Ione Elizabeth Kneese of Muscatine.

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### OBITUARY

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Dr. David C. Dinsmore died at the home of his daughter, Mrs. Clara Ackerman of Iowa City, November 9, 1921, at the age of ninety-one. Dr. Dinsmore was born in York county, Pennsylvania, December 30, 1830. Graduated from the Western Reserve University Medical Department 1855 and located in Martinsburg, Iowa; at the breaking out of the Civil War, enlisted at Burlington in Co. I, First

Iowa Cavalry. He was made first lieutenant and later captain of his company.

On April 2, 1862, he married Miss Cyrilla J. Andrew of Lafayette, Indiana. At the close of the war Dr. and Mrs. Dinsmore located in Kirksville, Iowa, where he lived fifty-six years and practiced until age compelled him to retire.

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### BOOK REVIEWS

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#### OPERATIVE SURGERY

By J. Shelton Horsley, M.D., F.A.C.S.,  
Attending Surgeon, St. Elizabeth's Hospital,  
Richmond, Virginia. With 613 Original Illustrations. Price \$10. C. V. Mosby Company, St. Louis, Missouri, 1921.

When a well known physician or surgeon writes a new book, we at once read the preface for the reason of the undertaking, and we sometimes find that the author feels that there is an urgent need for the message he brings, that somewhere a very important place is vacant. We are, however, pleased to find that Dr. Horsley offers no apology, but presents the book to stand on its merits. After the text, the first consideration is the character of the paper used, as it has an important relation to the illustrations. This the publishers have carefully seen too, and the illustrations which are so important to a work on operative surgery are well brought out.

We have in the beginning a chapter on general considerations, in which are suggestions as to the principles of biologic sciences, anatomy, physiology and pathology; that mechanical dexterity is not necessarily surgery, and that dexterity in operation work is not so much sought for as a knowledge of principles. Following, is a series of chapters on drainage, sutures and instruments, also complications of operations, infection, shock and hemorrhage, including measures to meet these complications. A chapter is given to the highly technical operation of suturing blood-vessels, including reversal of the circulation. Two chapters follow on ligation of blood-vessels, and on aneurisms. A chapter each on operations on nerves and bone. An important chapter on plastic surgery. These are repair operations for the purpose of correcting deformities and restoring function, and are often a test of the surgeon's judgment and skill, are often avoided by would be surgeons, for the reason the results may be easily apparent. These chapters carry numerous helpful illustrations. From this point on to the end of the book may be found a consideration of operations on to the several regions of the body.

In amputations, certain important rules are offered in relation to the point where the amputation of the thigh and leg should be made. In amputations of the thigh a "stump shorter than five inches below the perineum can rarely be fitted with an artificial leg without a pelvic band." In amputations of the leg a point should be selected at least four inches above the ankle if a satisfactory artificial leg is to be fitted.

The author is positively opposed to a Chopart, but is friendly to a Syme. Amputations below the knee in elderly people with gangrene of the foot or leg are not satisfactory, as secondary amputation is necessary, a Stephen Smith amputation through the knee will give the best results. An artificial limb can be best fitted if the amputation is supra-condyloid by the Gritti-Stokes plan. The chapter on operations for hernia is admirable, in that it is clear, and presents the important points to be observed in this operation which is so closely related to economic conditions.

### THE MASTER OF MAN

By Hall Caine

The central subject of *The Master of Man*, by Sir Hall Caine, which will be published on August 29th, the strong conflict between public duty or religious principles and private interest, has had a great fascination for some of the foremost novelists, as in the cases of Mrs. Barhauld (*Art and Nature*), Scott (*The Heart of Midlothian*), Lockhart (*Adam Blair*), Hawthorne (*The Scarlet Letter*), Lytton (*Paul Clifford*), Karl Emil Franzos (*The Chief Justice*), Stevenson (*Weir of Hermiston*), Tolstoy (*Resurrection*), and others.

There have often been great differences in their treatment of the subject or often important resemblances. In some cases the person in whose soul the conflict takes place is a clergyman; in other cases he is a judge; in one case an advocate, in another a juryman and in yet another a sister who holds the fate of the sinner in the palm of her hand. The spiritual responsibility has sometimes been the immediate consequence of a sin, while sometimes it has been the indirect result of it. The foundation has nearly always been laid on actual occurrences, though the authors have generally departed from the facts as they found them. In nearly every instance the sequel has been the triumph of public duty or religious principle over private interest, but it has differed widely in incident, the victim of the struggle frequently dying in the act of achieving the victory of conscience and less frequently being saved through love (usually the love of a noble-hearted woman) and the hope of a great resurrection.

Hall Caine in *The Master of Man* will probably be judged by the measure in which his imagination has brought new values, new questions and new meanings to a subject of universal and enduring interest—a great human subject (sin and its consequences) that has perhaps never been new and can certainly never be old.

### THE ALLEN TREATMENT OF DIABETES

W. M. Leonard, Publisher, Boston

This book with progressive diet lists in the treatment of diabetes by Dr. L. W. Hill and Rena S. Eckman, is very valuable to the use of every practitioner.

### EYE, EAR, NOSE, AND THROAT NURSING

By A. Edward Davis, A.M., M.D., Professor of Diseases of the Eye, and Beaman Douglass, M.D., Professor of Diseases of the Nose and Throat, both from the New York Post Graduate School. Second Edition, Entirely Revised. F. A. Davis Co., Publishers, 1920. Price \$2.50.

This book of 346 pages is meant simply as a guide for nurses in the care of the various diseases of the eye, ear nose and throat. The chapters are very brief, in reality are sketches. The book begins with chapters on the anatomy and Physiology of the Eye. Eye diseases are divided into contagious and non-contagious types, a short chapter being devoted to each group. The chapter on Remedies and Application, is lengthy, about a paragraph being given to each individual drug. The chapter on operations gives the nurse her exact duties in preparing for and at the time of operations. The eye section is concluded by a very short chapter on what to do in emergencies.

Fifty-nine pages are devoted to the anatomy, physiology and diseases of the ear and their care by the nurse. Part three consists of 186 pages dealing with the nose and throat and their various conditions from the viewpoint of the nurse.

This excellent book answers its purpose admirably and can be highly recommended to both undergraduate and graduate nurses. Dr. E. P. Weih.

### THE SURGICAL CLINICS OF NORTH AMERICA

June, 1921, Volume 1, Number 3. (Boston Number). Published Bi-Monthly, W. B. Saunders Company. Price Per Year \$16.

An important series of clinics appear in this number by well known Boston surgeons of a younger generation, a number of which we will be able to notice in this review; first a series of head injuries by Dr. Edward H. Nichols, classified as concussion of the brain; fracture of the bony vault; fracture of the base of the skull; laceration of the brain; intracranial hemorrhage. Dr. William P. Graves presents a series of cases given before the Boston Surgical Society of unusual interest, among them is Radium in the Treatment of Non-malignant Menorrhagia, in which it appears that a dosage of 50 milligrams for twelve hours is sufficient to arrest the menstruation without permanent damage to the ovaries.

Dr. Robert B. Osgood considers tuberculosis and angioma of the knee joint. Dr. Wyman Whittemore contributes a paper of some length on Lung Abscess based on a series of forty-five cases. Dr. Torr W. Harmer gives a paper on Tendon Surgery.

A group of surgeons at the Massachusetts General Hospital give an important clinic on the problem of Renal Calculus with Special Reference to Treatment, and Dr. F. J. Cotton a Reconstruction Clinic.

(Continued on Adv. Page xvi)

## A Bloodless Field is promptly produced by the application or hypodermatic injection of **Suprarenalin Solution, 1:1000**

—the stable and non-irritating preparation of the Suprarenal active principle. The e. e. n. and t. men find it the premier product of the kind.

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### BOOK REVIEWS

(Continued from Page 38)

The August number of the *Surgical Clinics of North America* is a Chicago number, and is an exceedingly valuable number. The contributors are among the best known surgeons of Chicago. The first contribution is by Dr. Arthur Dean Bevan, on a subject that should enlist the attention of every surgeon who uses the x-ray. The title is *X-ray Burns*. Dr. Bevan gives a successful treatment which should receive the thoughtful attention of all who have to deal with this troublesome accident. Dr. Joseph B. DeLee presents the subject of *Acute Appendicitis in Pregnancy at Term*. Many physicians have been in doubt as to the best course to be pursued in these cases. Dr. De Lee's experience will no doubt be helpful. An interesting case presented by Dr. Frederick Christopher, under the title of *Pylephlebitis of Appendical Origin Simulating Lung Abscess*. This case is rather exhaustively considered on account of the difficulty in diagnosis. Drs. Carl Beck and Verne Cabot present a series of cases of rare interest and importance to the general surgeon. Dr. David C. Straus demonstrates three cases of *Amputation of the Thigh for conditions of unusual interest and importance and should be extensively read*.

A presentation of marked interest is by Dr. Daniel Eisendrath at Cook County Hospital in relation to the lymphatics of the female breast in relation to carcinoma. Other contributions are by Drs. A. J. Oschner and John Nuzum. Dr. Allen B. Kanel, Dr. Wyllis Andrews, Dr. Carl B. Davis, and others of equal value.

The Chicago number is one of the best issued. Every paper is of great value.

### THE MEDICAL CLINICS OF NORTH AMERICA

Boston Number, May, 1921. Index Number. W. B. Saunders Company, Price, Six Numbers \$12 Per Year.

There are several valuable papers in this number. The Right and Wrong Use of Diuretics by Dr. Henry

A. Christian. The paper is a short one but presents important facts to be considered by the physician in prescribing diuretics.

Dr. Francis Peabody at the Peter Brent Brigham Hospital presents a valuable clinic on the Vital Capacity of the Lungs and Heart. Some important problems are presented here that should engage the attention of the practitioner.

Dr. I. Chandler Walker discusses the cause and treatment of seasonal hay fever. After considering the various causes he takes up the treatment; first the skin test, to determine the specific pollen to which the patient is sensitive, and with which he should be treated. Having determined which pollen gives a positive reaction, treatment is instituted.

From the experience of four seasons, Dr. Walker found that fourteen injections of pollen solutions, one week apart, gradually increasing the amount, gave satisfactory results in the majority of cases. A full account of the method employed is given. Rapid Heart Action is considered by Dr. Samuel A. Levine, in a clinic at the Peter Brent Brigham Hospital.

Dr. Elliott P. Joslin, gives some practical lessons for the physician and patient in the treatment of diabetes.

Dr. George R. Minot presents two curable cases of anemia; *Chronic Hemolytic Anemia*; *Pernicious Anemia of Pregnancy*; *Myxedema with Anemia*.

Vaccine Treatment of Asthma is presented at some length. Other important clinical discussions are presented which we have not the space to consider.

The Boston number is of unusual interest and importance.

### NOSTRUMS AND QUACKERY

Articles on the Nostrum Evil, Quackery and Allied Matters Affecting the Public Health Reprinted with or Without Modifications, from *The Journal of the American Medical Association*. Volume II, Illustrated, 832 Pages. Published by the American Medical Association, 535 N. Dearborn Street, Chicago, Illinois. Price, \$2.

Ten years ago the American Medical Association published the first edition of the first volume of this book. A year later a second, and enlarged edition of the first volume was issued. Since that time *The Journal of the American Medical Association* has published, week by week, articles on the nostrum evil, quackery and allied matters affecting the public health. All this material has been collected and appears in the present volume.

Quackery can never be defended; the "patent medicine" business, however, need not be fundamentally fraudulent. There is a place for home remedies for the self-treatment of simple ailments. Unfortunately, the home remedies of today are, generally speaking, those secret nostrums commonly called "patent medicines" and the methods of "patent medicine" promotion make these products a menace to the public

(Continued on Adv. Page xxviii)

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TOM B. THROCKMORTON, Secretary

## BOOK REVIEWS

(Continued from Adv. Page xvi)

health. The average "patent medicine" is so advertised as to frighten well people into the belief that they are sick for no other purpose than that of causing them to purchase the nostrums.

The present volume is a veritable encyclopedia of information on the subject it treats. The book contains nineteen chapters. The titles of some of these are: Alcohol, Tobacco and Drug Habit Cures; Consumption Cures; Cosmetic Nostrums; Deafness Cures; Epilepsy Cures; Female Weakness Cures; Nostrums for Kidney Disease and Diabetes; Medical Institutes; Miscellaneous Nostrums; Obesity Cures; Quackery of the Drugless Type and Tonics, Bitters, Etc.

This partial list of chapters gives but a poor idea of the vast fund of information contained in the book. To make the volume still more valuable it contains an index of twenty-two pages, two columns to the page, which includes references to every article appearing in the first volume of Nostrums and Quackery as well as to all articles in the present volume.

The book is free from stilted or highly technical language. The articles have evidently been written with the idea that the facts they contain belong to the public. In the Preface, it is emphasized that the work which this volume represents is wholly educational in character—not punitive. The matter that appears in this book has been prepared and written in no spirit of malice and with no object except that of laying before the public certain facts the knowledge of which is essential to a proper conception of community health.

## ESSAYS OF SURGICAL SUBJECTS

By Sir Berkely Moynihan, K.C., M.G.,  
C.B., Leeds, England. Illustrated. W. B.  
Saunders Company, 1921, Price \$5 Net.

This book contains a number of essays that have appeared in medical journals during the past few years of notable interest. This gifted surgeon has the faculty of saying things the medical profession would most like to hear. The first of this collection is the Murphy Memorial Oration, delivered at the Montreal meeting of the American College of Surgeons; it is most eloquent tribute to the memory of one of America's greatest surgeons. There are altogether nine essays, six on specific surgical subjects and three on general subjects, one as above noted—a tribute to Dr. Murphy—one entitled the Gifts of Surgery to Medicine, and one The Most Gentle Profession Delivered at the Annual Prize Distribution of the Nursing Staff of Leeds Hospital. Those who have had the privilege of listening to Sir Berkely will appreciate the value of his contributions and the pleasure to be derived from reading his essays.

## THE SURGICAL CLINICS OF NORTH AMERICA

Issued Serialy, One Number Every Other Month. W. B. Saunders. Price, Paper \$16.00 Net; Cloth \$16.00 Net.

Some time ago, we called attention to the new series of these serial publications in surgery; we have before us the second number by New York contributors.

The first is a series of cases by Dr. John F. Erdman of the Post-Graduate Hospital. Dr. Willy Meyer of Lenox Hill Hospital considers a subject well worth the attention of the young surgeon who desires the favorable opinion of his patients, which is nothing more or less than the importance of posture in post-operative treatment. There are certain accidents that follow surgical operations which Dr. Meyer believes could be lessened by posture; besides, there are postures that contribute to greater comfort which patients are grateful for. Dr. Eugene H. Pool at the New York Hospital presents that interesting condition known as cervical rib. Dr. John A. Hartwell presents a series of interesting cases. Dr. Fred Albee takes up plastic surgery of the hip and femur to which he has contributed so much. Dr. Leo Buerger presents some important lectures on complications of urinary lithiasis.

Dr. Byron Stookey from the Neurological Institute presents some very important observations on brachial plexus injuries.

## NEW AND NON-OFFICIAL REMEDIES

During November the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

- G. W. Carnrick Co.:  
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Diphtheria Immunity Test (Schick Test)—  
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Diphtheria Toxin—Antitoxin Mixture—Squibb.

## WANTED

A copy of the Iowa Medical Journal Volume iv, Number 1, 1898, also Volume vi, Number 9, 1900. The receipt of these issues would be appreciated by this Journal, 901 Bankers Trust Bldg., Des Moines, Ia.



# The Journal of the Iowa State Medical Society

VOL. XII

DES MOINES, IOWA, FEBRUARY 15, 1922

No. 2

## THE RELATION BETWEEN THE SPECIALIST AND THE PROFESSION\*

ROBERT M. LAPSLEY, M.D., Keokuk  
Address of Chairman

Owing to the numerous problems coming up in practice, I decided to consider the relation between the various specialists to each other, and the remainder of the profession.

So far as medical education has developed, it is still possible for anyone who has a license to practice, to call himself a specialist on any subject he desires, regardless of his particular training.

In course of time, no doubt, it will become necessary for a specialist to have training along the line he expects to practice, and will not be so easily possible for a person in general practice in one town to take a six weeks' course, and locate in another as some variety of specialist.

It is even now much wiser for a specialist to start with a good groundwork, as competition is growing more close in the medical and hospital centers, although many rural communities have a shortage of doctors.

It seems wiser now for a young man to enter a specialty after a good hospital training, than later in life, as it is not only more easy to assimilate ideas, but the development of technical skill is much more easy, and it is probably almost impossible to develop it in later life.

Even such a specialty as most of us practice is so comprehensive, that most of us are not competent in all branches, and it seems advisable to send some of our cases to the other specialists, better equipped for the work, unless they can be grouped together.

Group practice is gaining in popularity, as carried out in some of its forms, either an office group, a hospital group, or a college group, and we all can develop some of the advantages through the hospitals.

No doubt a closely bound group would be the nearest an ideal, if all of the members were

anxious to do their best for the relief of suffering humanity, were industrious, and unselfish, and competent of doing scientific work, but such an ideal can not always be reached, and, so much of the benefit of group practice will have to be gained from people not working as a unit.

We should try to cooperate together as fully as we can toward diagnosis and treatment, and it occurs to me that an ophthalmologist is the best person, if properly trained to treat disorders of the eye, and that usually such cases will go to him either directly, or be referred by some other physician, but there are many cases of eye trouble that the patient's own physician can treat, and I see no reason why we should be jealous or complain of his treating them, so long as the treatment is a proper treatment.

We should not, because our work is limited to that kind of work expect every case, but should expect only the cases that want to come to us, or that would be sent by some one who recognizes us as superior in ability.

On the other hand I see no reason why the general practitioner should complain if the patient selects an eye specialist in the first place without consulting him, nor do I see any reason why when the case is sent by one physician to another who is a specialist, that it should not be left to his judgment about the future treatment, unless it is sent only for diagnosis or consultation.

One of the difficult tasks of the specialist is to have a case partly referred to him, enough to throw some responsibility on him, but not giving him a chance to follow the treatment.

The idea I have hoped to bring out is that one physician should not handicap another when seeking his aid, by too many strings to the patient. The same trouble comes up here that I mentioned in group practice as a possible trouble.

Each physician has to be generous in his feeling and action to the other, and if one is not inclined to be so, it makes it hard for the other.

One very important point I wish to mention, is care in regard to criticism of what some one else has done. It may even appear to be just to criti-

\*Presented before the Seventieth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 11, 12, 13, 1921. Section Ophthalmology, Otology and Rhino-Laryngology.

cise, but, no doubt, if you have practiced long, you have had cases of your own come back, that if some one else had operated on, or treated, you would think there was not proper skill used, judging only from the appearance, and what the patient says, and you may know when the difficulties you had to encounter were considered, it was really skillful work.

This may sound like an address to a group of medical students, but it is not given without having observed the many petty annoyances about getting along in the profession after graduation.

The one great aim is to relieve suffering in the best way possible, and we should always consider the patient's interest first, but to do the most good, we should try to utilize other people's knowledge, with ours, and try to maintain the respect of the public for our profession, by not belittling each other.

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### THE MEDICAL PROFESSION\*

FRANK BILLINGS, M.D., Chicago

The general practitioner who is essentially the family physician is the most important factor in the community in welfare work. By education and experience he is especially qualified to understand fully the causes of, and the prevention of disease. If he gives the matter attention his education and experience enables him to comprehend readily the detrimental influence of unhygienic and poor social conditions in relation to the health of the community. In any plan or program which may be made, the domiciliary visitation of the general practitioner must be considered as a necessary fundamental pre-requisite in the conservation of the health of the community. The intimate relationship which exists between the family physician and his patients and the influence which he is able to exert upon the members of the community in consequence, is of the greatest importance in health work.

It seems necessary to pause at this point and to discuss the general medical practitioner more fully. It is recognized today that the general medical practitioner of former years does not occupy the same relative position in the medical profession. The evolution of modern medicine, the advance in the standards of medical education has stimulated the ambitious medical student and recent graduate, to enter special fields of practice. In consequence, comparatively fewer graduates take up the general practice of medicine.

The allurements of the city deprive the rural districts of the proper share of medical practitioners. In the rural districts of some states, there is not only a scarcity of medical practitioners but they number among them but few of the recent graduates. And yet, some of the members of the medical profession, who are engaged in teaching, whose judgment we must accept, the statement is made that the number of physicians graduated by the medical schools of the country, is sufficient to supply the needs of the public were these practitioners equably distributed where their services are most needed.

### Our Present System of Medical Education

In the opinion of the writer the chief fault for the lack of a sufficient number of general practitioners in rural districts, especially and also in the city, lies at the door of the medical schools. In the evolution of modern medicine, there has been an irrational coincident development of the curriculum of the medical school. The present curriculum tends to specialism of the undergraduate student. He does not receive the broad training necessary for the general practitioner. Each member of the faculty is usually a specialist, and is most likely to teach the student the facts which relate to his own narrow field rather than to instruct him in the broad underlying principles of medicine, and the relationship which the narrow specialty bears to the parent subject—medicine.

For a moment let us consider the functions of the family physician, and his responsibility to the community he serves. He is responsible for the safe and sane treatment of the family in illness and injury and it is his duty to preserve individual and community health. He counsels and advises the family in regard to all problems which concern it in relation to individual and general hygiene, public sanitation, education, community obligations and responsibilities, and the care of the family in sickness and injury. Therefore, he must have a good general knowledge of the principles which underly epidemiology, immunology, sanitation, medical jurisprudence, sociology and education that he may act rationally when confronted with the problems which relate to the application of tried and proved measures of disease prevention in the protection and welfare of the multiplied families, the community for whom he is responsible. He must advise, guide and safeguard the expectant mother through gestation. He must so manage the labor that it will terminate within a reasonable time, if that is possible, without instrumental interference and without serious injury to the mother and child. He must be able

\*From the paper read by Dr. Frank Billings, at Creston, Session of Iowa State Conference of Social Work, September 27, 1921.



to meet obstetric emergencies and especially to recognize serious complications at an early stage of labor so that consultation may be secured if he alone is not technically able fully to safeguard the two lives for whom he has assumed responsibility. He must be able to give the best advice and management in the care of infants and children. This implies the practical knowledge of modern infant feeding and child welfare work. He must understand the principles of psychology which enable him to recognize psychopathologic conditions of childhood and adult life. For these abnormal mental conditions and their management and treatment he will usually not assume responsibility, but will be able to direct the related responsible parents, or guardians, to physicians qualified in this work. He must be well trained in diagnostic methods and be able generally to recognize existing morbid conditions by physical examination, and by the application of simple functional tests. His intimate acquaintance with members of the family will enable him to trace the beginning of pathologic changes more readily than a strange physician and to promptly apply the proper management and treatment while the condition is remediable. He will command a selected few tested and tried pharmacological products which he will be able to use with skill and benefit. His knowledge of the principles of immunology and bacteriology will enable him to use recognized specific serums and bacterial vaccines, with judgment and skill, both prophylactically and therapeutically. In the general management of his patients he will utilize rest, the proper environment and when needed available physical treatment. Always he will be able to command some form of hydrotherapy. Thermotherapy and occupational therapy are always available. He will have the proper conception of the value of calisthenics and other active exercises in the restoration of the functions of the heart, skeletal muscles and joints. He will understand the principles of asepsis and will be able to perform minor and emergency surgery and especially to manage fractures of the bones and uncomplicated joint dislocations with confidence and success. He will know his own limitations and will safeguard the lives and health of his patients by reference of major surgical conditions with which he is unable to cope, to qualified surgeons.

#### Needs of the Service as the Basis of Educational Standards

With this brief statement of the functions of the general practitioner it is unnecessary to enumerate the various steps which should be

taken in the training of the family practitioner. With the curriculum compiled and formulated to afford this training, the product of the medical school would be able to give adequate and efficient general medical service to the community he desires to serve. This fundamental and general training would best serve too as the basis of the postgraduate training of those graduates who may finally decide to enter general surgery, or the narrower fields of practice in medicine and surgery. The general practitioner of medicine who is properly qualified, occupies a field of endeavor which affords an opportunity of service to mankind second to no other in the world. The life of a general practitioner of medicine is one filled with hardships, fatigue both bodily and mental, exposure to the elements, loss of sleep, is attended with great responsibility and is often illy repaid by financial reward. On the other hand, the life of the general practitioner is one filled to overflowing with the joy of service rendered to the poor and rich alike, with the satisfaction which comes from intimate friendships and the gratitude of the majority of the people he serves, and with the contentment of mind which is the reward of one who performs his daily task honestly, energetically, disregardful of the financial compensation he may receive, well satisfied if his efforts have relieved suffering and prolonged life.

#### Multiplication of Effectiveness Through Coordination

What the individual general practitioner may do in the program of community health is multiplied by organized medicine in its local, district and state societies. Indeed it is more than multiplied by the actual number of the members of the medical profession in the community, for by cooperation among themselves and with lay and semi-medical welfare organizations the combined influence is many times greater than that of the the individuals composing the group.

#### COMMUNITY HEALTH AND EDUCATION

Health expresses a state of being hale, sound or whole in body, mind or soul. So defined it is rarely absolute, but is usually relative. In common usage one usually thinks of health as being a condition free from physical disease or pain.

From the mother's womb to the grave man is in constant combat with physical, chemical and other forces which modify his well being. Individual and community health demands not only comparative freedom from disease, but also an environment which is clean, conditions of life



which are comfortable, wholesome food, satisfactory provision for work and recreation, educational advantages in good schools and other modern social conditions.

Education is directly related to health promotion. That education system fails which does not add to the academic instruction the teaching of personal and general hygiene and physical education. Simple amusements of an instructive kind are essential to community health.

#### Agencies Which Promote Community Health

Let us now consider the agencies which will diminish, modify or entirely prevent the action of these causes of ill health.

#### Public Health Activities

In this country we have the United States Public Health Service representing the activities of the federal government in the matter of public health. Each state has its department of public health with organization varying in character and with varying good and poor results measured by the condition of the health of the public. The United States Public Health Service has done efficient work in protecting the people of the country against the importation of infectious diseases and undesirable immigrants, through personal examination of immigrants at points of embarkation and at disembarkation, by quarantine, by the regulation of interstate traffic, by the attempt at prevention of pollution of interstate waters and by investigation of the causes of, and the transmission of infectious and of parasitic diseases of man and animal. In some of our states the department of public health is thoroughly organized including counties and smaller cities. In the larger cities the municipal health departments are usually well organized and do efficient work, often at a very low per capita cost. Public health work by the state, the county and by municipalities is essential to the health of the public served by each.

#### The Function of Public Health Service

The true province of the public health service is the prevention of disease. The efficiency of public health work is to be measured by the results of its work in the protection of the drinking water at its source, in the establishment and enforcement of regulations for the prevention of the spread of communicable disease, in the standardization and enforcement of regulations which will prevent the contamination of milk and other foods; in the establishment and enforcement of regulations which will insure comfortable and sanitary homes; workshops and places of recrea-

tion and amusement. In the establishment and enforcement of regulations to insure freedom from infection and injury in railroad and vehicular transportation; in the establishment and enforcement of regulations which will insure the inspection, the treatment for local infection and the physical education of school children. Through its personnel at headquarters and in the field, it should standardize all health work.

#### Necessity for Cooperation of Local Medical Profession With Other Local Agencies

It should cooperate with the medical profession, the state and local medical and lay organizations in all health and welfare activities. "*Success in public health work can be attained only by cooperation with the members of the community and must coordinate all of the activities which are utilized in health and welfare work.*" (Foregoing italics our own.) Centralized operation of health activities is apt to become bureaucratic and in any event, is never as efficient as when it is decentralized and *operated by the people benefited.*

#### Community Interest

Community interest must be aroused by the education of the people. This may be done by local, district or statewide conferences, and by publicity reinforced by lectures from the pulpit, the school rostrum, at chautauquas and the like. The grade and rural schools afford an opportunity for the instruction of children by simply phrased lectures and motion pictures, in many instances by practical examples in the causes and prevention of disease and in the maintenance of physical health, by proper physical drill and play.

#### Importance of Local Boards of Education and Teachers—as Active Agents

In addition to the pedagogic qualification, the school teacher should be able to instruct the pupils in the principles which embody well known laws of health. Local, district and state societies, and associations which are organized for the promotion of the public welfare, should cooperate with the school authorities in carrying on this health work in behalf of the children who are destined to be the future citizens of the community and who will be the better qualified in their turn in the promotion of the health of their children and of the other citizens of the community. Local, district and state social associations organized for welfare work, must justify their existence by the result of their work. To be efficient, all these agencies should cooperate and so coordinate their work that there will be little or no duplication of effort for the sake of economy of

money and time, and to insure efficiency and productive results.

#### **Local Churches as Factors in Reducing Local Death Rates**

The churches must take their part in the program of health conservation. Christ preached and gave an example of cleanliness of mind, body and soul and healed the sick. The modern minister may not heal the sick by the laying on of hands, but he may from the pulpit and in the spiritual care of his flock promote bodily cleanliness, and an adherence to the simple laws of health, which will aid in the prevention of disease and in the restoration of the sick.

#### **Relationship of the Medical Profession to Lay and Other Public Welfare Organizations**

In the past, it has been the generally adopted policy of individual medical practitioners and of organized medicine to stand aloof from lay and other public welfare organizations. This policy has implied an element of jealousy on the part of the medical profession toward lay organizations engaged in welfare work and even against public health officials. It is difficult to comprehend this attitude on the part of the medical profession. It is not based upon a selfish attitude and hostility to the application of the measures of disease and injury prevention. The attitude of the members of the medical profession and every day practice has been one of cooperation in the application of measures of disease and injury prevention and no worthy member of the profession ever refuses service to the sick, poor and the needy. In general, one may say that in their point of view and in their work, medical practitioners are individualistic. There is more or less of a prideful attitude in the assumption that the qualified medical man alone should be left to deal with the problems relating to the welfare of the community. But progress in relation to all the activities of man, the lessons learned of the value of group and mass effort as practiced in the World War, and the evident need of greater activity in welfare work in city and especially in rural districts, has changed, or is gradually changing this individualistic point of view of the doctor.

#### **Iowa, the Leader**

Iowa has taken the leadership in the adoption of principles and policies which include in the program, the interest and support of all the members of a community in its welfare work. The first movement in this direction was made years ago by Dr. E. E. Munger of Spencer, upon whose

initiative an enabling act was placed upon your statutes books which permits the public of any county to tax themselves for the construction and maintenance of a community county hospital. This pioneer work of Dr. Munger has already borne fruit by the enactment of similar laws in other states, and by the practical operation of these county or community hospitals as health or diagnostic centers and as the focus of all welfare work of the community. The leadership of Iowa is further emphasized by the success obtained by Dr. F. E. Sampson and his co-workers in establishing the principle of coordinated and cooperative effort of all local, district and state organizations engaged in welfare work.

With these fundamental advantages established in Iowa, your health program should show encouraging progress from year to year. This success will be insured if organized medicine as expressed in local, district and state organization will assume its rightful place in the program. I say rightful place because organized medicine is qualified better than any other members of the public to assume leadership in the program of community health.

#### **Erroneous Notions**

There is an erroneous belief held by members of the medical profession of some communities and of some states, that the practice of individual doctors will be interfered with by programs of health betterment which are promoted by lay or semi-medical welfare organizations, or by the state. We hear and read of social medicine which some members of the medical profession fear is to dominate the field of practice. This belief is erroneous and is beyond the bound of reason. The most optimistic of us cannot see that the application of tried and proved measures of disease and injury prevention, or the most hoped for correction of inhygienic conditions, or the greatest possible improvement of social life will so materially diminish disease morbidity, or the incidence of injury to a degree that the medical profession will have nothing to do. Man is too immoral or too careless, indifferent and selfish to permit a millennium of health to occur.

#### **Leadership Logically Medical**

Therefore, it behooves us as members of the medical profession to take the part of leadership in local, district and state health movements. Let us medicinize the social movement. That will help it forward and will place the medical profession in a position to rationally direct the health crusade.



To this end, members of the medical profession should take an interest in, and if necessary, become members of lay welfare organizations, should secure cooperation of the churches, business organizations and members of the community in the operation of welfare movements which benefit the public. It lies within the province and power of organized medicine of the community to so shape the public mind that the community will vote to tax themselves to establish hospitals and diagnostic centers to be operated by the community through and by the medical profession for the benefit of the public. The community hospital and its one or more diagnostic centers in the county, or district, will enable the family physician to practice medicine with greater efficiency because he may then have all of the facilities for diagnosis and for treatment at his command. Under standards fixed by the state health department public health work may be efficiently carried on by the medical profession, aided by the state and county health inspectors and public health nurses cooperating with local and state medical and welfare organizations and with the people of the community.

#### **A Local Program Adapted to Application of Local Forces in Local Service**

The medical profession with a like cooperation with school boards and school teachers will inspect, give medical care when needed and direct the physical training of the children of the community. These duties and obligations will in no way interfere with individual medical practice. On the other hand, the individual practitioner is aided in his work through the diagnostic center and hospital to which he has access, and his own and his family's well being and happiness are promoted in common with other members of the community by this cooperative effort.

I feel greatly honored by the opportunity to address this conference composed of earnest men and women who are so unselfishly engaged in an effort to benefit their fellow citizens by the improvement of the health of the community. Health is the most valued of all possessions. When it is lost the money of the richest man in the world cannot buy it. The most humble and poorest among us may have it if he will lead a clean life, at the same time take advantage of the facilities afforded by the state, by the local, district and state medical societies and by other welfare organizations, such as constitute this conference, to support and aid him in the battle for health.

## **X-RAY WORK IN COUNTRY PRACTICE**

CHARLES D. ENFIELD, M.D., Louisville, Kentucky

It is with the x-ray as a diagnostic aid in the general practice of medicine in the smaller communities that I propose to deal in this article: to outline to some extent what may be the factors which should determine what part the x-ray can or should play in the diagnostic effort of the general practitioner in country practice. Most of the world lives, and most physicians practice, in communities too small to support a full company of highly trained workers in the special fields of medicine, yet in the more prosperous parts of this country at least, the economic and cultural status of the population is such that they demand, and are willing to pay for, a high degree of professional effort. Our middle western states especially are dotted with small communities having in every sense a modern attitude toward the things that make for social progress, and yet more or less remote from the advantages of well organized clinics, hospitals, or groups. These little cities have their miles of paving, their city water, their electric plants and most of the other things that make life today more comfortable than it was fifty years ago, yet, in so far as modern medicine means specialization of effort, they are, medically speaking, living in the past. Whether or not the ultimate solution will be group practice, with each of the half dozen or dozen physicians doing the thing for which he is by inclination and training best fitted, time alone will tell. At present such a trend, if existent, is scarcely noticeable.

Under such circumstances the dictum that the man who labels himself "physician and surgeon" must necessarily be neither, cannot apply. The small town general practitioner has to be not only physician and surgeon, but ophthalmologist, obstetrician, otologist, pediatrician, and pretty much everything else. And he has to cover all these fields for the simple reason that there is no one else available to do the work, and it is his business to give relief wherever it is sought and in so far as his training and skill permit. It is usually not a question of whether he can do some particular piece of work as well as the man who spends his whole time in that particular field. He is quite ready to admit that he cannot. But is it preferable that he should do it as well as he can, or leave it undone? Many a more or less technical procedure which in the larger city it would be decidedly culpable for the general practitioner to attempt, since more expert hands are readily available, in the rural districts it would be



almost equally culpable for him not to proceed with to the best of his ability. It is only when he fails to seek available expert consultation, only when he refuses to give his patient the best skill that the circumstances and the community offer, that the general practitioner errs in infringing on the fields of his various specially trained colleagues.

It is in this light that I wish to consider of what use the x-ray may be to the rural general practitioner. Granting that it is neither desirable nor practical for him to acquire the technical skill, the special knowledge, nor the expensive equipment of the qualified roentgenologist, will the additional information that he can derive from his own more modest roentgen investigations justify the necessary expenditure of time, effort and money? Will his own roentgenograms of fracture cases give him sufficiently better results, and enough additional protection, medico-legally, to make it worth while? Will they add enough to his insight into obscure lung lesions, gastrointestinal cases, or focal infections to make it pay? The field of medicine is already so large, its myriad ramifications so complex, that most physicians will be in full sympathy with the despairing plaint of Cecil Rhodes "So much to do; so little time!" Before entering upon a new and highly technical field of medical effort, it will pay to consider well what it has to offer in return for the necessary outlays. It may not be out of place to mention that the opinions here offered are based very largely on an intimate personal experience under exactly the conditions outlined.

In the first place, advances of very recent years in the design and manufacture of x-ray equipment, largely the result of the necessity for a compact, reliable, and simple equipment for war purposes, have made technically possible, the production of high grade roentgenograms, with a relatively simple and modest plant. The use of double intensifying screens with films, instead of plates, has reduced the amount of x-ray energy necessary for a given photographic result some 60 per cent to 80 per cent. The use of the self-rectifying radiator type of Coolidge tube, has made it possible to dispense with the motor driven rectifying disc or arms in these smaller outfits. Less cumbersome, more compact, and more efficient design has characterized the post-war production of most accessories. It is therefore, possible to produce photographically excellent roentgenograms without any very complicated machinery, without any special wiring, and without other than the usual 110 volt alternating electric lighting current commonly supplied to most service

main. Thus the problem of equipment, and the question of mechanical continuity of service have both been greatly simplified by recent advances in design and manufacture. This is in large part due to the untiring efforts of a few remarkable men to supply the United States Army with a field x-ray equipment better than any before used.

But the question of equipment, which I have considered first, would better have been considered last. It is, fortunately, a comparatively simple matter to install a workable plant. And that accomplished, the first two or three years are the hardest, to paraphrase the cartoonist. The problem then divides itself into two parts: the purely technical performance of producing good roentgenograms, and the interpretation of these and the images seen upon the fluoroscopic screen. The purely photographic part of the technical work is neither difficult nor complicated. Anyone with the laboratory training that every physician has had, can acquire the fundamentals in short order. It is not as a rule, desirable to entrust the development of x-ray films to a photographer, since the standards that govern the process are so different than those that obtain in photographic work. An intelligent office girl, however, can readily learn enough about the process to turn out uniformly even, satisfactory work. It may be well to add that a fairly roomy dark room with some provision for ventilation, and with adequate equipment, or perhaps, a little more than what would suffice, will well repay the added expenditure.

The remainder of the problem is, or should be, purely medical, and will call for a definite minimum of time, study, and effort. I do not believe that it is any more advisable for a physician to attempt to interpret x-ray findings and apply his conclusions in treatment of disease merely because he owns an x-ray plant, than it would be for him to start doing laparotomies without previous training, merely because someone had sold him an operating equipment. Nor is roentgen interpreting something that can be "picked up," any more than any other special medical knowledge; nor even learned from books alone. The novice had far better, in his own interests and those of his patients, give up a definite period of weeks, at the start, to the study of his subject in some clinic where there is abundant material and an expert to interpret it. Almost every general practitioner considers himself capable of interpreting a fracture film: it is only when he hears the number of perfectly sound deductions a capable roentgenologist will make from inspecting that same film, that he realizes how superficial, and often inaccurate, his impressions may be. Yet

fracture interpretations are as a rule the simplest of all readings to make. It is necessary to see an abundance of material day after day for a considerable time, and to digest the interpretations, in order to get a true perspective for later independent work. I was recently told by a roentgenologist of several years experience, that he never spent a day in a certain clinic which handles a particularly large volume of x-ray work, without seeing something new and informing. After an adequate experience of this kind, the physician can proceed to do much of his own routine roentgenography, with a wholesome respect for the limitations of his own knowledge, and a conservatism in drawing conclusions bred of experience. But let me emphasize again, that without an earnest period of special training, the expenditure for equipment will be worse than thrown away, and the whole field of roentgenology will have gained, in the mind of the physician, and probably of his friends, an undeserved black eye.

An inspection of the records of a general practice in such a community as referred to in the beginning of this article, covering a five-year period, showed that in about one patient in five the x-ray played a legitimate part in the diagnosis. These figures included very little work referred for this phase of the examination alone, and comparatively few patients who came in especially for x-ray examinations. Further, the aim was to employ this means of diagnosis only when it seemed likely, or certain, that information would thus be obtained which was available through no other channel. No more attempt was made to "push" the x-ray than any other purely laboratory procedure, for instance. Each was employed wherever it seemed probable that it would furnish a link in the diagnostic chain, and only there, so it is probable that this is not far from a fair average for practice of this sort. If then, it be conceded that this procedure is capable of giving definite negative or positive evidence obtainable in no other way, in 20 per cent of cases seen, it must at once class as a very important procedure.

"X-Ray Diagnosis" is a phrase very often used, and very rarely justified. It is usually no more accurate than "laboratory diagnosis" or stethoscope diagnosis, or percussion diagnosis. There are a few conditions in which the x-ray and the x-ray alone suffices to clinch the diagnosis: there are hundreds in which it gives valuable, often indispensable, additional evidence unobtainable from other sources. And there are other conditions in which the evidence obtained roentgenologically may be arrived at through special investigations from other angles. To illustrate, the gastroenter-

ologist and the roentgenologist may arrive, through widely different means, at exactly the same conclusions in regard to a duodenal ulcer. The rhinologist and the roentgenologist may reach an identical opinion in a case of infection of the accessory sinuses, the surgeon and the roentgenologist may independently make like diagnoses of a bone tumor. Yet each is supplementary to the other, and the roentgenologist can amplify the knowledge that each of the other investigators has gained in his own way. The point here, however, is that the general man with x-ray training can derive from his roentgen findings the information necessary to guide him in selecting treatment, or in referring his patient to one more competent than he to handle this particular condition.

There is no need at this late date to enumerate the diseased conditions both medical and surgical, in which the roentgen examination contributes an essential link to the diagnosis. Reference may however be made to the importance of stereoscopic films of the chest in the diagnosis of tuberculosis and other lung conditions. There is probably no condition of common occurrence in which more hinges on a prompt and accurate diagnosis than pulmonary tuberculosis. Where a positive finding may mean the demand for a complete change in the entire mode of life, and often of the occupation and even the dwelling place of the patient, we cannot afford to neglect any diagnostic measure which promises added certainty. Very many conservative workers in this field, not themselves roentgenologists, give the x-ray findings equal weight with the physical examination. It is true that carelessly made and loosely interpreted films are of little value; but this may be said of the same class of physical examination. Dunham, whose work in this connection has been epoch making, feels that the x-ray gives earlier definite evidence than the physical examination, and often earlier than the most careful history. On the other hand, if it merely confirms the physical examination it gives an added assurance that is extremely comforting when it comes to making radical demands as to therapeutic measures.

Mention of bone radiology has purposely been left to the last. It is from the fracture viewpoint that the general practitioner has usually approached his own x-ray problem. He is already convinced that he needs the x-ray to secure better restoration of anatomical relationships, better restitution of function, and greater peace of mind. Furthermore, he has had it borne in upon him that he needs it as a measure of personal protection, and to inspire greater confidence in his



patients. It will no doubt do for him all that he expects in this connection, but he will be surprised to find that as time passes the bone work will loom less and less large in the total of his roentgen activities. Ten years ago Dr. Bevan said that the three pre-requisites to the treatment of fractures were to "have all ones' property in his wife's name, to have ample medical insurance, and to have frequent x-ray examinations." Perhaps with good surgery the first two might today be omitted.

From the aspect of financial return the same thing may be said of roentgenology that might be said of any other attempt to enlarge the scope and increase the accuracy of diagnostic effort. If the work is taken up earnestly and applied honestly and intelligently it will prove remunerative in direct proportion to the skill and ability that is put into it. However the entirely exaggerated respect in which the general public holds the x-ray as a diagnostic procedure, will as a rule, make it far easier to place it on a dividend paying basis than would otherwise be the case. Indeed, this often constitutes an embarrassment to the small town roentgenologist, as patients come to him with an expressed desire for an x-ray examination in conditions in which it could not possibly play any useful part. Any mention of the therapeutic use of the roentgen rays has purposely been omitted. The field of treatment is a large one, and is constantly growing larger and more important, but only the superficial type of therapeutic application would be within the scope of the sort of apparatus here described, and the whole subject is one into which it behooves the novice to enter with exceeding circumspection. The treatment ray still carries potent possibilities of damage as well as of immense benefit, and the margin of safety is small enough that it requires a special training and experience to avoid using, on the one hand, an inadequate and useless dose, or, on the other hand, a harmful and destructive one. It is quite likely that any general practitioner who seriously takes up x-ray work in his own practice will eventually do a considerable amount of treatment, but it will be as well to defer it until at least a good working knowledge is gained of the diagnostic side.

#### SUMMARY

1. The general practitioner in the small community is handicapped in many respects through lack of expert roentgen consultation and advice.

2. Developments of the past few years in roentgen appliances and technic have greatly simplified the processes attendant upon the production of good roentgenograms.

3. With adequate training it is possible and profitable for the general practitioner so situated to do much of his own x-ray work, at least in the diagnostic application.

4. The attempt to interpret roentgen findings without adequate training will lead only to dissatisfaction and failure.

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#### TREATMENT OF DIABETES\*

EDWIN B. WINNETT, M.D., Des Moines

The treatment of diabetes as I see it today, is based on the ideas of Dr. Allen: "That of starvation or fasting." The usual diabetic can make progress with the disease in no other way, especially if other than the mild type.

From time to time various modifications of this plan of treatment have been advocated, because a large percentage, in fact most of the diabetics do not need to undergo the prolonged strenuous fast, with the subsequent loss of strength and weight in order to get sugar free. It is hard to convince patients of the severe type that they are better when they loose considerable of their weight and therefore be able to utilize more food and to feel better.

Complete laboratory data at the start gives the key to the whole situation. If this is not had it is better not to undertake any form of treatment, as you will not get results with the patient and may do them a great deal of harm.

In the treatment, the first step is a careful history, and a complete physical examination, including blood examinations. Many of these cases are complicated by tuberculosis; by carcinoma of the head of the pancreas; by chronic infections, and may be complicated by any of the ills mankind falls heir to.

We must correlate all of the different forms of treatment. Each patient must be treated as an individual case. We can no more follow the diet lists as outlined in a book than we can perform a laparotomy, find the same condition in each abdomen and treat it in exactly the same way. One patient can take a great deal more carbohydrate with the same amount of protein and fat than another. The next patient can take little carbohydrate with a great deal of fat without causing trouble.

We must also keep in mind that diabetes can be made worse by treatment. Some should not have their diet changed. Others may be thrown into coma by changing the diet too rapidly. Es-

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\*Presented at the Polk County Medical Society.



pecially is this true with the patient having had the disease some time and the diet changed to the high fat, high protein content or complicated by an acute infection. Many left handed forms of treatment are advocated. Such as the various forms of cure alls; the drinking of a tea made from the smut of corn; the use of many and various drugs. These may have been of benefit, as I have had no experience with them I cannot say as to their merits. The general treatment carried out in my cases has been to try and give the patient sufficient food calories in a well balanced diet so that they may keep at their usual vocation in life. This amounts to about thirty calories of food per kilogram body weight, which is less than is usually eaten, but I find that patients feel better and do not loose weight while taking this amount of food. It has been my experience that diabetics of all classes do better and feel better when sugar free, notwithstanding the fact that many good men believe that one per cent or less of sugar in the urine makes no difference. If a diabetic excretes sugar he must add to his diet four calories of food for each gram of sugar lost, to maintain the balance. This does not take into account the other ill effects of the daily excretion of sugar.

The difference between a diabetic who is excreting sugar, and one who is not, is the difference between an individual who feels well, who has a hopeful attitude toward the disease, who looks on the bright side of life, and one who is tired, with little incentive to work, with a lack of concentration of ideas, and one who has the neurasthenic's ideas of life with the periods of depression.

In treating diabetes we must first thoroughly understand the principles of dietetics. We must be able to figure the diet in grams of the protein, fat and carbohydrate. We must know the food content of the more common foods eaten before we can treat the disease successfully, or before we can hope to retain the respect and cooperation of our patient, and this we must have. The food values can be easily remembered with a little study along this line.

The diet of the patient varies with the work they are doing. It also varies with the age and weight. Early diagnosis is just as important in treating diabetes as it is in treating tuberculosis. The patient may be kept in the mild class if treated early.

Treatment should be planned according to the stage of the disease—the mild; the moderate; the severe.

The general form of treatment has been as

follows and is the plan of Dr. Joslin. All long standing, complicated, obese or the case showing acid: The first day omit from the diet fat, after two days of it the protein, next halve the carbohydrate daily, until the patient is taking 30 grams. Then fast, unless the patient is sugar free before. In other cases fast at once. Establish a tolerance for carbohydrate by feeding 5 or 10 grams carbohydrate daily until sugar appears in the urine. Fast again until sugar free. During the fast allow tea, coffee, clear broth, Agar jelly, Mayonnaise, bran muffins or cracked coco.

Drop the carbohydrate intake one-third, next feed protein 15 grams daily until sugar appears in the urine or until the patient is taking one or one and one-half grams per kilogram body weight. Next add fat until the patient ceases to loose weight or until the required amount of food is given. Examine the twenty-four hour specimen of urine daily. The fasting blood sugar should be read twice a week. The diet must be arranged to keep it normal.

It is easy to get the usual diabetic sugar free, but the hard part of the treatment is to keep them sugar free and still allow them sufficient food in a well balanced diet to sustain life.

The diabetic should go to school to the doctor; learn how to measure, weigh, and prepare the diet; how to examine the urine; to know what to do should sugar appear in the urine; to recognize the symptoms of a threatened acid poisoning; what to do should they appear. They should know food content so that they may know what to eat should the usual diet not be available. The moderate diabetic should be able to eat at any table and be able to estimate the protein, fat, and carbohydrate in the food eaten. The management can be much better carried out in a hospital until the patient has learned how to manage his own case.

The ideal treatment is to first establish the tolerance. Second, establish a follow up system which keeps the patient under observation and still does not keep the disease constantly before the mind of the patient.

The treatment outlined above is a suggestive form and should not be rigidly followed in every case. The urine should be carefully watched for acetone and diacetic acid. If they appear the fats should be limited as fats cause the acidosis, a forerunner of coma. Coma causes more deaths in diabetes than any other one cause unless it be tuberculosis. This is the reason many good men state that all diabetes is tuberculosis. I do not believe the above statement is true. All diabetics treated by me that were at all severe had albumen

in the urine which quickly cleared when the urine became free from sugar and acid. I am unable to explain this phenomena.

Diabetics should be encouraged to take water freely. The severe type should not take the water cold as it requires energy to cool it to body temperature. A patient who has a tolerance for less than 20 grams of carbohydrates per day should have a fast day once a week. Should the tolerance be above that amount the diet should be cut in one-half once a week. In a well balanced diet the foods which are acid should about balance the foods which are basic. It is very necessary that the doctor feeding diabetics should select for his patient food of such a nature that the acid balances the basic.

A chart recording daily the amount of urine voided, specific gravity, sugar and per cent if present, diacetic acid, acetone, albumen, ammonia, intake of carbohydrate fat and protein. The number of calories of food eaten and the weight of the patient should be kept of each patient. The patient expects it and has a right to expect it. With such a chart the doctor and patient can tell at a glance just what progress the patient is making.

After the patient has mastered the situation the chart is kept by them and much interest is manifested by patients comparing charts.

During the treatment should any of the following symptoms develop, they should be carefully investigated. They may mean an acid poisoning and prompt treatment at this stage will save the life of the patient.

Nausea or vomiting; increased weakness, excitement or discomfort; restlessness; anorexia; deep or labored breathing; drowsiness or the patient complains of being unusually tired.—Should the above symptoms manifest themselves the patient should be put to bed, heat applied about the body. A normal salt enema should be given at once. Nervous and mental excitement should be avoided. One thousand c.c. of water should be given either by mouth or by rectum. If on account of vomiting or diarrhea the fluids cannot be administered in this manner, they can be given intravenously. One gram of carbohydrate should be fed children every twenty-four hours. This may be either grape fruit juice or orange juice. A nurse who has had experience nursing diabetic patients is a great addition to the treatment.

Conclusions: Group diabetics as to mild, moderate, or severe. Do not starve all diabetics. Careful history of each case. Complete physical examination of each patient. Treat each patient individually. Follow no diet lists. Change the

diet slowly and know whether the carbohydrate, the fat or protein is causing the trouble. Know the symptoms of threatened coma. Know the treatment of threatened coma.

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## THE RELATION OF HOSPITAL STANDARDIZATION TO OBSTETRICS\*

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With imperfect statistics from which to judge, those trained in the science of obstetrics are appalled at the result of its application, or art of obstetrics.

With the record of 8,500 annual direct and 20,000 indirect deaths of mothers, of hundreds of thousands coming to hospitals each year for relief incident to childbearing, of 3 to 5 per cent of babes dying and many more infants maimed, we are roused to the serious need of meeting and arresting such results.

Gestation, parturition, lactation and involution, while theoretically physiologic, are so complicated in conduct, we cannot, in the greatest percentage of cases, practically so classify them.

Pregnancy has been called a "disease of nine months' duration," and by Barnebus (?) has been classified as "a test of the integrity of every structure of the woman's body."

In casting about for relief, we meet the same problems which have blocked progress in the past. Chief among these is the undying faith of women "in nature," and the willingness of midwives to permit or encourage this devotion.

Any other condition in life fraught with so many annoyances and painful phenomena as gestation, and any condition taxing the integrity and endurance of the body as does labor, would call forth the most careful investigation and skillful guidance.

Lactation, with its great problem of infant nutrition and with its influence over involution, will fail, unguided, thereby paying an annual toll of thousands of lives of babies plus a restricted physical, mental and moral development of more uncountable thousands and a resultant restricted maternal usefulness and happiness because of an associated sub- or hyperinvolution.

Constant scientific care must surround the woman, the unborn, and the infant, if we are to prevent the sorrows incident to reproduction.

The pregnant woman is a problem for the internist, the parturient for the surgeon, the foetus and infant for the pediatricist.

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To meet so great responsibilities the obstetrician must have a correct environment in which to function. This can only be furnished in a hospital. Possibly for many years, as today, a large percentage of the maternity cases will continue to be "sacred to the home."

Distance and inaccessibility of hospitals to the outlying places, premature and precipitate onset and completion of labor, seeming maternal inability to leave the supervision of home, etc., will continue to hold the greatest number of cases at home.

These cases must be safeguarded if present conditions are to be improved. Miles away from a hospital, in the night, babies will continue to come, with possibly a tried pair of hands of a well trained obstetrician to meet every emergency. Possibly a good neighbor may be the only attendant, and the maiming and losses will continue, for,—“It is the war.” We have always been and will always be unprepared for some of the conflicts.

Education of the people, arousing an interest other than sentimental in the pregnant, teaching the possibility of preventing many dangerous conditions; providing community nurses to cooperate with local obstetricians, bringing each woman who does not voluntarily seek this supervision, that she may be thoroughly examined and her functions repeatedly tested; uniform pregnancy records provided to assemble the data of her physical condition, functionally and organically; accurate pelvic measurements recorded; condition, position, and presentation of the foetus; an x-ray picture if need be to confirm or deny gross foetal abnormality.

The presence or absence of placenta prævia determined, as also any severe toxemias; contracted pelvis, relative or positive; exostoses, tumors of the uterus or adnexa, liable to seriously complicate the exit of the child.

Repeated urinalysis and blood analysis as indicated, both ante- and post-partum. Maternal blood-pressure repeatedly noted as also foetal and maternal heart action.

Accurate history, family and personal, should be considered; also regulation as far as possible of the environment, food, clothes, rest, etc., of the mother.

With accurate and uniform supervision of pregnancy, surprises and unpreparedness in labor will be lessened.

Careful charting of the various acts of labor leads to closer study of the individual case. There should be notation of injuries to mother and babe, immediate reparation in the best possi-

ble way, and careful examination a few weeks (6 or 8) later, to determine results, and then plans for further correction at a suitable time if necessary.

In the past much of the hospital care was but little, if any, better than that given in the ordinary home.

With the hospital standardization movement as inaugurated a year and a half ago, the science and art of obstetrics, as every other department of medicine and surgery, will gradually present greatly improved results.

A fully equipped, well managed hospital, under central supervision that will demand the most skilled care for every case entrusted to its staff, will surely produce results that will progressively improve, and be uniform for good throughout the country.

Internes and nurses trained in such hospitals, going out into the various communities, will bring with them the same accurate methods of diagnosis and skilled prophylaxis and treatment as used in the hospitals from which they came. Through these as also the hospitals the people will be accustomed to expect and demand the care that in the coming decade should rob reproduction of a large percentage of its dangers and disasters, and reduce the morbidity and mortality of mothers and babes, as in the past two and one-half decades specific medication has reduced losses from diphtheria, and correct surgical procedures the toll of acute appendicitis.

### HIGHMORIAN EMPYEMA\*

FRANK L. SECOY, M.S., M.D., Sioux City

The object of this paper is the report of a couple of rather obscure cases of maxillary empyema. I will preface this report with a short outline of the classification, diagnosis, and treatment of this malady.

Highmorian empyema usually falls under one of the three following heads:

- A. Acute closed empyema.
- B. Acute open empyema.
- C. Chronic empyema.

We are all more or less familiar with the acute closed type, for that is the type we see in extreme agony with the pain localized definitely over the antrum involved.

Not so easily recognized is the second type, the acute open empyema. In fact, this type depends for recognition largely upon the patient's own

\*Read March 29, 1921 at the fortnightly meeting of the Woodbury County Medical Society.



sense of personal comfort, and if he is easily satisfied with a little yellowish discharge and a little sense of stuffiness in his nose he will not consult his physician during this stage; on the other hand, if he is not satisfied he comes in and the diagnosis is soon made.

If we are to rely upon our patient for the diagnosis in the last class, chronic empyema, as we have in the preceding classes, then we are often led astray. For it is in this group of cases most of the mistakes are made.

The patient does not complain of a unilateral discharge so much as he does of frontal headache, terrific at times and almost gone at others; of a peculiar burning, smarting pain around the eyes causing sudden severe unexplained lachrimation; of heavy dull aches apparently originating at any place, but over the site of the involved antrum. It is this extreme frontal pain coupled with marked tenderness over the floor of the frontal sinus that is so often mistaken for a true frontal sinusitis and opened up only to reveal a perfectly normal sinus with a consequent continuation of the patient's frontal symptoms unabated.

As to the diagnosis. That should be relatively simple, and I believe is, if we will follow a definite routine and not allow any deviation from the beaten path. First, have the patient tell his own story with as little prompting as possible. Often during this story items very diagnostic will present themselves which would never have come to the surface if only stereotyped questions had been asked. Supposing there is nothing in the history to indicate antrum disease, then we proceed to look the patient over. First the outside of the face and then the inside of the nose, looking here for some chance swelling or edema of some turbinate or the presence of pus. Supposing we find a perfectly normal looking nose both inside and out even after shrinking the turbinates and applying suction, then we are most apt to push the transilluminator aside and do a refraction or something else and miss the pathology. But supposing we do use the transilluminator and find the light does not penetrate either side very readily we are now on a warm trail. The next step in the diagnosis is the radiogram. It is more penetrating than transillumination and consequently may rule out one antrum even after both were positive with the former instrument. This is still not the absolute diagnostic test. We next and finally make use of the antrum puncture. A short needle is thrust through the antral wall under the lower turbinate and clear sterile water is forced on through this sinus. The washings are caught in a basin, and if there

is pus inside, you will see it in the pan. If it is impossible to get water through under ordinary pressure, intra-antral polyps or other pathology is sure to exist. The results of this test make the diagnosis final and absolute. You are inclined to ask why all this. If a patient does not transilluminate well why not puncture immediately, or if an antrum is suspected why not puncture without all these intermediate steps? I can say that there are times when the radiogram is more sensitive than the transilluminator and reveals normal, or at least clear antra, thus saving the patient the puncture operation. I would secondly call your attention to the fact that recently a few eminent Swedish doctors have reported a large series of sudden deaths occurring in their offices from the simple antrum puncture; consequently, I do not care to subject the patient to this operation unless every other indication points directly towards it; neither do I want to operate upon antra which the transilluminator and radiographic plate condemn, and find them normal.

*Treatment*—Under this heading may be written chapters and then have few agree with you, consequently, I am only going to give you a general outline of the essentials.

There are numerous names attached to numerous operations upon the antrum and most of them depend upon whether a certain operator took half a bite more of bone posteriorly than the next man, or whether another individual took two bites more out anteriorly than did his predecessor, consequently, I am not giving you any named operations.

The treatment of antrum empyema depends first of all upon the removal of the pus, and if that can be done and allow the mucous membrane to regenerate through the simple antrum puncture, repeated a few times, that procedure is then sufficient for that case; if this is not enough the antro-meatal operation is done. This consists of lifting the lower turbinate out of the way, removing the entire antro-meatal wall from under this turbinate, cleaning out diseased tissue which may be in the antrum through this opening, and replacing the lower turbinate over the opening, thus leaving a functionally normal nose behind. The antrum is flushed out daily until healed.

And lastly the radical or external operation is done when the intra-antral pathology appears to be so chronic that actual bone necrosis has taken place. This procedure begins with an incision extending along the upper border of the roots of the upper lateral teeth. The external antral wall is removed and the entire contents of the sinus

removed under direct inspection. The nasal wall is handled the same as in the antro-meatal operation and the periosteum and mucous membrane of the external wall closed by interrupted silk sutures and the usual irrigation treatment carried on through the nose until healing takes place.

### Case Reports

Case 1. G. A., male, aged forty-one, laborer, examined September 22, 1920. Family history, unimportant.

Personal History—In January, 1919, patient had a "burning, aching pain" over right frontal region which came on suddenly following the "flu." This pain continued severe at intervals until the following February when he had the external frontal operation done. Patient was never free from pain, but during quiet intervals could attend to his work. He described the pain as being of a "burning, aching, throbbing character." When the pain was very severe the right eye would water and the vision become blurred, necessitating laying off work. His trouble at this time was diagnosed as a right frontal empyema. The frontal was opened externally. The wound healed evidently by primary intention, but the symptoms remained unchanged. Later he was told he had nothing in his frontal but "neuralgia pains." He continued "treatment" until the following September when I saw him.

A radiogram was made and reported clear except right frontal clouding. There was pus found in the right ethmoid region, otherwise the nose was apparently normal. A right ethmoid exenteration was done with little relief of the symptoms for a couple of weeks, then a beginning of the old frontal pain as severe as formerly. A diagnosis of neuralgia of supra-orbital nerve was made and an alcohol injection was done with relief of pain until the nerve regenerated, when the frontal symptoms again returned. Finally a tentative diagnosis of migraine was made and the patient referred for a thorough physical examination and another radiogram.

The physical report was entirely negative. The radiogram, however, showed a clouded antrum both sides with the same right frontal clouding. An antrum puncture was done on both sides. From the right antrum came a thick organized clot of yellow pus about the size of the end of one's thumb. From the left antrum came a more thin and flocculent pus.

Diagnosis—Highmorian empyema chronic bilateral.

Operation—February 23, 1921. Since he had previously lost some upper lateral teeth both sides, a double radical operation was done.

Pathology—Both antra found filled with pus, granulation tissue and polyps. All this mass removed from both sides and external wounds sutured with interrupted silk sutures.

Post-operative History—The next day patient said his head felt sore but he could not feel any of the old frontal "burning pain." A few days later, admitted

that the head felt as it used to feel years ago. Resumed work within a week and has been free from all pain and distress since.

Case 2. J. W., male, aged fifteen, student in high school. Referred by Dr. John W. Shuman February 5, 1921, for special examination. Family history, unimportant.

Personal History—Usual number of colds per year but none of long duration until "last Thanksgiving he contracted a very severe cold which settled on his lungs." Since then he coughed day and night, keeping himself and the rest of the family awake. The cough was described as dry and harsh, with very little expectoration. He had lost ten pounds in weight, was unable to play games on account of exertion tiring him. His mother and father "were afraid he had consumption." Tonsils and adenoids had been removed a few years prior. At times breathing through nose was difficult, but at other times breathed well. There was some nasal discharge during the colds but none during the intervals. No headache or pain anywhere. General physical examination. Reported by Dr. John W. Shuman, negative. Examination of nose. Inspection. Some pus in left inferior meatus. No swelling or edema of any turbinate.

Transillumination—No light transmitted through either antrum.

Radiogram—Both antra shadowed.

Puncture—Both antra yielded solid clotted pus when irrigated.

Diagnosis—Highmorian empyema chronic bilateral.

Operation—Double antro-meatal done, pus and heavy granulation tissue found filling both antra.

Post-operative History—First night patient had considerable pain, but second night he had his first night's rest free from cough for past number of months. The recovery has been uneventful and free from cough.

Case 3. V. P., male, aged sixty, examined March 2, 1921. Family history, unimportant.

Personal History—Complained of pain over both frontal areas and bridge of nose so severe he was unable to sleep nights or work during the day. Contracted a severe cold a few days prior.

Examination—Intra nasal inspection revealed swollen congested turbinates but no discharge. Temperature 98.6. Shrinking of turbinates with suction afforded relief but pain returned at night. This continued three or four days when the transilluminator revealed "black" antra.

Radiogram—Revealed heavily shadowed antra.

Puncture—A double puncture was done. The water flowed through both antra very easily and returned perfectly clear. The former treatment was continued a few days until symptoms cleared and nothing further has been heard of the case.

### REMARKS

CASE 1. Is interesting because an external frontal operation was apparently done on symp-



toms. The ethmoid exenteration and supra-orbital injection I did evidently unnecessarily upon a possible misinterpretation of a radiogram, and because I either failed to use or properly interpret the transilluminator.

CASE 2. Is interesting because of the very strong internal medical history it gives and yet turns out to belong to the field of special surgery.

CASE 3. Is interesting because it demonstrates to us that even with a solid mass of positive information present we dare not operate upon antra without the final results of a puncture.

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## THE OUTLOOK FOR THE FOURTH ERA OF SURGERY\*

ROBERT T. MORRIS, F.A.C.S., New York City  
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The first era of surgery was heroic. Both the patient and the surgeon required a high degree of bravery and the technique was based upon empirical formulæ. Next came the second or anatomic era of surgery when the great anatomists entered the field and allowed surgeons to know accurately about the structures with which they had to deal. So great was the progress made in the second era that one of the great teachers of the time said that surgery had reached its limitations. Nothing more remained for the student of surgery in the future, excepting to acquire the knowledge of what was already known, and to perfect his manual technique. The most remarkable advance during the days of the anatomic era consisted in the introduction of anesthesia, something quite separate and apart from the anatomic features of the subject.

Then came Pasteur and Lister who introduced the third or pathologic era of surgery with our knowledge of infections. A complete revolution in the whole field of surgery followed, and the third era was the one in which the greatest progress in all history up to that time had occurred. According to the principles of the third era the surgeon was to destroy bacteria and their products by means of his own resources. The physiologic resources of the patient himself were overlooked, or at least, were not given important position. The surgeon in his conscientious efforts to destroy bacteria, and to remove their products, introduced two destructive features. The first of these destructive features included the employment of germicides, which injured the defence mechanism

of normal tissue, at the same time when they were destroying bacteria. Surgeons soon became aware of the importance of this first destructive phase of the third era, and corrected it by disposing of germicides which caused injury to normal tissue cells. The second destructive phase, that of prolonged operations, and with unnecessarily large incisions, which led to destructive impulses being sent into the centers of consciousness of the patient, is not as yet fully appreciated. Furthermore, the fact that many bacteria fall into a wound while the surgeon is at work has a very distinct meaning. It means that in the course of prolonged operative work and with large incisions, very many bacteria fall into the wound from the air and upon structures which are more or less damaged, with consequent loss of resistance in the course of operative work. Experiments made with culture media in Petri plates exposed in the operating room under the best of aseptic precautions, showed that culture media become infected after fifteen minutes of exposure and sometimes after only a few minutes exposure.

We are now at the beginning of the fourth or physiologic era in surgery. Wright and Metchnikoff with their studies of opsonins and of the protective forces of the individual gave us a basis upon which we may formulate the principles of the physiologic era. In this era we are to give the patient home rule, in other words, we are to avoid as far as possible long exposure of the wound to the air, we are to make as small incisions as will suffice for conducting our operative work, and we are to avoid the handling of structures as far as possible in order to avert the destructive impulses sent to the centers of consciousness of the patient, even when he is thoroughly anesthetized, as has been shown by Crile. One of the features of the third era of surgery has stood in the way of rapid acceptance of the principles of the fourth era. When the rubber glove was introduced it gave us a distinct advantage in avoidance of carrying bacteria into the wound by the hands. On the other side of the question there was a loss of tactile sense on the part of the surgeon which has led him to make larger incisions, and to work largely by sight. In the fourth or physiologic era we are to take into consideration this feature of the question and we must get back to the *tactus eruditus* of the older surgeons who, like Tait and Price, had remarkably good results. Such good results in fact that these men were slow to accept teachings relating to the germ theory of infection. The protective resources of the individual are truly remarkable when these resources are demonstrated after

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avoidance of shocking methods of surgical technique.

When surgeons in general come into full appreciation of the importance of the protective resources of the individual, we shall then emerge into an acceptance of the principles of the fourth or physiologic era of surgery, which will make almost as great a revolution as that which occurred with the introduction of the third era. We cannot as yet know what the fifth and sixth eras of surgery will mean but doubtless they are forthcoming.

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### PYELITIS\*

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F. V. HIBBS, M.D., Carroll

It seems, in many lines of our great work, that medical achievement must wait upon discovery. A light was seen burning distantly by Boazzini of Frankfort in 1806, later by Segalas of Vienna in 1826, and in 1827 by John Fisher of Boston and in 1853 by Desormeaux of Paris, in 1865 by Robert Neuman, in 1874 by Grunfeld, but it was not until 1877 that Dr. Max Nitze of Berlin was able to comprehend the light in the true sense of the word and give to the great profession the original notion of the illuminated cystoscope.

We appreciate the fact that this instrument was very crude. During its formative period, this man labored hard to put proper illumination upon the subject in hand. We appreciate the fact that the platinum wire of this primitive instrument was a great drawback, and a cumbersome thing, and that this instrument must wait until Roswell Park of Buffalo came forward with the support of Edison, and the modern incandescent lamp was made use of to illuminate the distal end of the modern cystoscope. Since that time many changes have been made, but the original idea of Boazzini was the one that gave Edison the idea, and his great master mind opened the avenue of accurate diagnosis of the bladder, of the ureters, and the kidneys by the aid of this instrument. Before the days of the cystoscope, the subject of pyelitis, as a working subject was impractical. It was impossible to know definitely that we had a pyelitis. The condition had been discovered many times at autopsy but was thought to have been due to an infection from the kidney. For some reason few men are interested in the work of the cystoscope and its results. Without the use of the cystoscope, the accurate diagnosis of

pyelitis is practically impossible. The clinical symptoms are fairly well marked, and I believe there is sufficient evidence to guide us as a working basis, but to be absolutely sure, we must make use of the ureteral catheter.

The subject of pyelitis is one which should interest every practitioner. Every general practitioner is brought face to face with some phase of pyelitis. It may be that he has overlooked this disease; has failed to recognize the symptoms, or has offered some other diagnosis instead of pyelitis. Every one of you have seen many cases of pregnancy. Some of you have lost cases of pregnancy. DeLee says that two-thirds of the women who die during pregnancy, show evidence that they either have, or have had pyelitis. It is a very common disease in children. Girls under three furnish us a large per cent of our total of pyelitis in the female, according to the statistics of today. It is very often found in the male child and is not uncommon in the male adult.

We have two modes of infection; the first, the ascending type, or the type that comes by continuity of tissue spreading over the mucous membrane, through the urethra and bladder and by way of the ureter to the kidney. The other is through the avenue of the blood. This type comes by way of elimination or by direct metastasis. It has been pointed out that the female is more prone to infection than the male for the reason that the bladder is more easily infected, is more subject to traumatism. It renders this mode of infection more common. As the work proceeds in the investigation of pyelitis, it is found that the male is coming up with his share of the infection. In the past it has been overlooked because we have not made free use of the cystoscope. It is now found to be possible and practical to cystoscope children even under one year, and the work is proving of unusual interest. The men who are interested in this work, find that the infection in the bladder, ascending into the ureters, without some mechanical obstruction to the outflow of the urine is very rare. It is believed that the common origin is from the blood, the lymph or by metastasis.

Pyelitis may be found associated with the obstruction of the ureters by tumors or due to an hypertrophied prostate gland. I think in most of these cases the infection is not an infection resulting from the ascending type, due to the obstruction.

*Etiology*—The bacteria responsible for the etiology in pyelitis is most commonly the colon bacillus. Pyelitis may be due to the staphylococcus, streptococcus, gonococcus, pneumococcus, bacillus typhosis, proteus bacillus. The infection

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Read by O. C. Morrison.

varies but little with the various types of bacteria, the bacillus typhosis and the colon bacillus being those usually found in the chronic types. Pyelitis is always the result of infection, not obstruction. It is seldom a primary infection. It is a metastasis from a bacterial focus of dissemination.

*Pathology*—Rayer published a chart showing the pathology of pyelitis some seventy years ago. The ulceration of the mucosa, opening the lymphatics to direct infection from the ulcerated area, is typical. The pelvis of a normal kidney has a very thin wall, the mucularis is thin and the fibrous coat is not heavy. Ulcerations causing perinephritic abscess by direct continuity, and by metastasis into the lymph system, are common in the severe types. Should the pelvis be irregular and full of pockets, we are confronted by multiple pathology, rendering the treatment very difficult if not impossible, as to good results.

*Symptomatology*—The symptoms vary greatly. Pyelitis is usually the result of a remote infection in the body, and comes secondary to a focal infection elsewhere and when undiscovered the original focal infection should be carefully sought. If the ureters are not obstructed and the kidney parenchyma is normal, and an ulcerative pyelitis is present, you can see that the type of bacteria would largely determine the pathology. If we have a streptococcus infection, the lymph and blood reaction to toxemia would be severe in the average case. The temperature would be high, lymphocyte count high, pulse rapid and a typical picture of septicemia and bacteremia would be present. This infection would naturally involve the kidney substance and add to the symptoms its pathology. Should we bar the symptoms of the original focal infection and deal with the colon bacillus in the pelvis of the kidney we would have a picture of that pathology. Locally ulceration and lymph congestion, perhaps perforation of the pelvis and perinephritic abscess, high temperature, a rapid bounding pulse with pain and tenderness over the kidney involved and with typical urinary findings.

Should the staphylococcus be responsible we would expect abscess formation and perhaps a chronic course with many exacerbations. The symptoms can be as varied and complicated as the imagination may conceive. The important thing to remember is that pyelitis is usually secondary to some distant focus of infection, that it came by way of the blood stream, that there are ulcers in the pelvis of the kidney and a bacteremia and septicemia from this new focus of infection, and that the temperature, pulse and local signs to-

gether with the primary findings, will guide us in separating the symptoms from the complications. There are no so-called typical temperature symptoms in pyelitis. The temperature may be 104° in some cases, in others only a slight elevation and in still others remitting. The finding of pure cultures of bacteria in the urine is our surest guide. Pain in the back or referred to the lower right quadrant of the abdomen, may be mistaken for appendicitis or tubal colic. If the case is worked out carefully and if needs be, in order to definitely establish the diagnosis, a cystoscope is passed and the pelvis of the kidney catheterized, it is possible to know what we have, and which side is offending.

*Diagnosis*—The diagnosis results from taking a careful history of the onset of the infection, number of attacks, times urine has contained bacteria, temperature and pulse, history of childhood, if it be an adult, together with the urinary findings. The urine must be collected, by a catheter in a female, in a clean receptacle. Make a careful search for bacteria and repeat the search on several days as the urine may be free of bacteria for many days and then recur. Make a plate culture by centrifuging a fresh specimen and using urine from the bottom of the tube. If in doubt pass cystoscope and get condition of bladder for cystitis. Pass catheter into pelvis and collect urine. It may be advisable to fill the pelvis with some collargol, soda or any substance that will give us the outline of the kidney pelvis that we may have a reasonably safe guide as to prognosis, as a pockety, sacculated, irregular pelvis will not yield the results that a regular, smooth pelvis will yield.

*Differential Diagnosis*—Pyelitis must be differentiated from: 1. Abscess of the kidney parenchyma. 2. Stone in the kidney pelvis. 3. Stone in the ureter. 4. Stricture of the ureter. 5. Appendicitis. 6. Cystitis. 7. Gall-stones. 8. Ulcer of the stomach. 9. Ulcer of the duodenum. 10. Lumbago. 11. T. B. of the spine. 12. T. B. of the kidney.

1. Abscess may be difficult to differentiate. It may give great difficulty as it simulates pyelitis very closely in symptomatology.

2. Stone in the kidney is differentiated by skiagram. It may help us to know this technique for taking a picture of a kidney. We usually use a three and one-half inch spark gap, thirty-five milli-amperes, six to ten seconds time. We always use a screen and have the obturator pressed as close as the patient will permit, and pointing up and out from the junction of the ninth costal cartilage and rib. Have the bowels well cleaned with oil. Practice the patient as to



holding his breath, if he breathes the least bit it will blur the kidney margin and cut out the detail. Kidney pictures are best made with the slow, soft ray.

3. Stones in the ureter are differentiated by the x-ray and ureteral catheter, soft tip.

4. Stricture of the ureter, by x-ray and catheter.

5. Appendicitis, by the history and absence of pus and bacteria in the urine, in the usual case. May be difficult in some cases.

6. Cystitis, by the use of the cystoscope.

7. Gall-stones and cholecystitis by absence of urinary findings, in usual case, and history.

8. Ulcer of the stomach, x-ray and urinary findings.

9. Ulcer of the duodenum, x-ray (ninety-five per cent will show).

10. Lumbago, history and urinary findings.

11. Pott's disease, by x-ray of spine and no urine findings.

12. T. B. of kidney, microscopic finding of T. B. and guinea pig inoculations and positive chest.

Complications of two or more of the above with pyelitis makes it more difficult.

This work must be done carefully. If your technique is not perfect you are lost before you start. The urine must be gathered aseptically. A voided specimen in females is worthless. Every step is essential, and must be done with the greatest care if you want accurate results.

*Prognosis*—It is very important that we know the history of the infection preceding the onset of pyelitis as well as the history of the pyelitis. We must know the bacteria responsible, and if it is complicated by stone in the pelvis, etc. We must know the shape of the pelvis and if it is sacculated, or if irregular in contour. If there is obstruction to the outlet of the ureter it will be prolonged, as we do not get sufficient drainage. One sees at a glance that the prognosis depends upon many factors and must be arrived at with great caution.

*Treatment*—Since the infection arises from a focus somewhere outside of the pelvis of the kidney, that focus must be dealt with efficiently to avoid recurrence. The treatment of the immediate pyelitis involves the use of some disinfectant in the urinary stream, urotropin and sodium benzoate, hygienic care, rest in bed and symptomatic treatment. If it does not yield to a mild form of treatment, it may require lavage of the pelvis with some non-irritating silver salts twice a week by the ureteral catheter, or drainage of the pelvis of the kidney by a lumbar incision.

The treatment of pyelitis is undergoing a rapid change in character due to our progressive work in this field.

### Case Histories

**Case No. 1.** Miss A. R., age nine; childhood diseases, no scarlet fever or diphtheria. Entrance complaint, fever and chills. Her initial trouble began at the age of three by an attack of diarrhea which lasted three days, following this she had pain in the abdomen with a temperature of 104 rapid pulse. Urine examination was not made at that time. The attending physician made a diagnosis of indigestion. It was stated that she had had spells of fever and chills occasionally every few months for the last four years.

Patient entered the hospital emaciated and anemic. Red blood cells 2,500,000. White cells 12,000. Urine loaded with pure cultures of colon bacillus. Diagnosis of pyelitis was arrived at and treatment instituted. Patient responded quickly and left the hospital in four weeks and gained ten pounds in the next ninety days. Was free from bacteria for one year or until the present time.

**Case No. 2.** Mrs. C. T., age thirty-one, married, three children living and well; was six months pregnant on admission, with the following history. Entrance complaint was fever and chills. Patient had spells of fever as a child but could get no definite history. Had been well until a few days before admission to the hospital. This attack came on by a chill, temperature of 103, rapid pulse and vomiting. Urine was full of pure cultures of colon bacilli. Red cells 4,000,000. White cells 10,000. She was placed upon routine treatment and within two weeks urine was free from bacteria. Returned for confinement with urine free and is still free.

**Case No. 3.** Mrs. E. M., age thirty-seven, housewife. Entrance complaint, cervical adenitis, requiring drainage, pregnant eight and one-half months, loss of two-thirds vision. She had five children alive and well. She had albumin in urine for four or five years according to her attending physician, who admitted her for albuminuric retinitis.

A careful search to know if the child was viable led us to believe the fetus dead. Her albuminuria and retinitis had deepened and we decided to empty the uterus which was done by manual dilatation and forceps. Fetus dead and had been for some time.

The patient did well for fourteen days. Suddenly out of a clear sky she had a chill, pulse went to 140, temperature to 105 and the urine loaded with pure cultures of staphylococcus. Routine treatment was instituted and the patient made a fine recovery. Left the hospital free from bacteria, only a trace of albumin and in excellent condition. She has remained well now for five months and is able to resume her usual work.

### RESUME

A. In patients suffering from pyelitis it is well to seek for a focus of infection other than the pelvis of the kidney.



B. Be sure to get a clean specimen of urine and look for the kind of bacteria causing the pyelitis.

C. Get the patient to bed and suitable treatment instituted.

D. Follow the case carefully after removal of all possible sources of infection lest a recurrence occur.

#### Discussion

**Dr. Frank M. Fuller, Keokuk**—Nearly every year we have a paper on pyelitis, and I think it is well that we do, for the condition is very common and easy to recognize if the causative factors are carefully looked for. And yet we find continually coming into our work cases which have given a clear history of pyelitis, the condition has been searched for and never recognized. And the one thing I am on the floor for today is to emphasize the fact that we need to pay more attention to the examination of the urine in all cases, particularly in children. Dr. Hibbs has emphasized the fact that a large percentage of these cases of pyelitis arise in childhood. How many of us examine, as a routine procedure, the urine of little children? The fact that in so many cases of pyelitis the urine has never been examined, is evidence that we are neglecting this very necessary clinical evidence in connection with examination of our cases. It is not much trouble to collect the urine. There are measures for collecting the urine in infants which we can readily adopt. This requires more patience, more care, more instruction of the mother, but the urine can usually be very readily examined. It is very little trouble to centrifuge urine. If you will drop a drop of the centrifuged urine on the ordinary blood slide, put your cover-glass over it and examine it and find an increasing number of pus cells, you can have a very strong suggestion as to what to look for in that case. It does not take much trouble, and I believe that one of the things we come here for is to improve the technic of our work, thus improving the value of our service to patients. And if there is one thing that this paper ought to emphasize to this Society, as should be emphasized from year to year by the representation of these papers, it is a more careful, thorough examination of the urine of patients who are showing atypical conditions in those cases which are ordinarily and in a slipshod way diagnosed in children as a gastro-intestinal disturbance. And let me say this: That notwithstanding the fact that many children do suffer from repeated gastro-intestinal disturbances due to the improper hygiene of their food, yet it is a great mistake for us to assume, because a large number of children suffer from repeated and constantly recurring gastro-intestinal disturbances, that all of them that come before us are suffering from this condition, because we will find on more careful and thorough examination that a certain very positive and definite percentage of these cases are pyelitis, neglect of which on our part oftentimes condemns these patients to a chronic pelvic kidney condition.

**Dr. J. E. Dyson, Des Moines**—The fact that so many of these cases appear in infants and children gives me excuse for appearing on the floor. I wish to emphasize the appeal for routine examination of the urine of infants and children. A very simple method as Dr. Fuller emphasized, is to put a drop of uncentrifuged urine into the blood-counting chamber, examining it for pus cells in clumps or singly, and for bacteria. In the fresh specimen we will find true bacteriauria of colon bacilli. It seems to me there are two types of pyelitis hitherto unemphasized; one the pyelitis of childhood, the other of infancy. These are distinctly separate. The pyelitis of infancy, barring that due to malformations of the kidney and ureters, is most often intestinal in origin; it is due to the intestinal disturbances of infancy, to contamination of the genitals, and the increased lymphatic drainage of the pelvis. Treatment of the pyelitis of infancy is different from that of the pyelitis of childhood. The pyelitis of infancy is almost entirely a colon bacillus infection that will respond to flushing the kidney with an increased amount of water by mouth, regulating the bowels, and alkalinizing the urine. Potassium citrate or sodium bicarbonate will alkalinize the urine. We know that the colon bacillus does not grow in an alkaline medium, but that it grows and flourishes in an acid medium. The pyelitis of childhood is a distinct disease and may or may not follow the pyelitis of infancy. It is due to the acute infections, as measles, scarlet fever, diphtheria, tonsillitis, etc. It is often due to metastatic infections from abscessed teeth and tonsils. A great many of these are colon infections, but some are due to the streptococcus. Many of them are staphylococcus and proteus infections. As to treatment of the pyelitis of childhood, the condition does not respond to alkalinization of the urine. A urinary antiseptic as urotropin, guaiacol or salol is of more value. However I do not know just how effective urotropin is, as generally used in these cases, because it takes quite a bit of it to cause enough formaldehyd to be formed in the kidney to kill the colon bacillus. It requires more urotropin than we ordinarily give to a child; it requires more than we can give to an infant because, in large doses it will cause a vesicular irritation and blood will appear in the urine before sufficient formaldehyd is released to kill the colon bacillus. Absolute rest in bed, and forced fluids goes a long way in clearing up an acute case of pyelitis, and removing the septic foci of infection removes the cause of many chronic cases. I think we should hesitate to cystoscope infants promiscuously. We can usually diagnose these cases without a cystoscope. There will be considerable trauma to the delicate mucous membranes, which are already inflamed by the disease, even when performed by the most capable cystoscopist. We do know that there are some cases of pyelitis in childhood in which there is a sacular condition of the kidney pelvis forming pockets, in which cystoscopy and lavage with silver nitrate or other antiseptic will do some good.

## UNUSUAL INDICATION FOR CESAREAN SECTION—CASE REPORT\*

A. B. DEERING, M.D., F.A.C.S., Boone

Since the time of mythical delivery of Cæsar by section the operation which bears his name has grown in popularity, slowly at first, but rapidly in recent years.

I recall that during my student days a Cesarean Section was a real event. Today it is so common as to scarcely arouse comment outside the immediate family of the patient.

It is a God-sent boon to many a tortured woman in the midst of travail, but like some other blessings, its misuse may make of it a curse.

The obstetricians are holding up their hands in horror at the alarming increase in the number of Caesarean Sections being done, claiming this operation is seized upon by the unscrupulous and the untrained as the easiest way out of every obstetric difficulty.

Admittedly some women have been sectioned who might better have been delivered by other methods. But I believe that for every Cesarean Section done unnecessarily there have been two cases that had better have been so delivered, where high forceps or other difficult obstetric operation has been done to the detriment of mother or child or both. Many times the choice of delivery is one that requires our very best judgment.

With improved technique Cesarean Section bids fair to supplant high forceps in the vast majority of cases. In well selected cases the maternal mortality of the former is but little greater than that of the latter, the morbidity is less, and the fetal mortality is incomparably less.

The time has passed when Cesarean Section will be reserved for contracted pelvis. No longer is it possible to lay down absolute indications for this operation, and say that no woman who does not come within those indications is entitled to its benefits. The indications have been broadened to include all cases where the best interest of mother and child will be conserved, giving preference always to the mother.

Among the many indications for which this operation is now done are contracted or deformed pelvis: disproportion between the size of the head, and that of the pelvis: any obstruction in the birth canal, such as tumor or scar tissue: (placenta prævia) abruptio placenta; eclampsia; severe heart and kidney disease.

Of the four Cesarean Sections we have done

in the last six months one was for contracted pelvis, one for disproportion between the size of the fetal head and the maternal pelvis, one for placenta prævia in a woman with a decided hemorrhagic tendency, and one for severe nephritis of pregnancy.

This latter patient complained of increasing headache, dyspnoea and dimness of vision, had a systolic blood-pressure of 200, and urine loaded with albumin casts, and red blood cells.

Cesarean Section was done two weeks before full term. She now has a healthy child, and her symptoms have entirely disappeared.

Among the contra-indications to be considered are dead or deformed fetus, history of repeated vaginal examinations or examinations made without proper aseptic precautions, previous attempts at vaginal delivery, long continued and exhausting labor, rupture of the membrane a long time previous to the proposed section. Gonorrheal infection is an important contra-indication. All of these are more or less relative.

In choosing the mode of delivery in any serious obstetrical complication the skill and experience of the operator must be taken into consideration. This may be the deciding factor in a given case.

Of the three distinct types of abdominal Cesarean Section the Porro operation, in which the uterus is removed, is not often employed except when uterine tumors or recognized infection exist. The Latzko operation with its low abdominal incision, and extra peritoneal opening of the uterus is considered safer when we have reason to suspect infection but is a more difficult operation to perform.

The classic transperitoneal operation, which is a very simple one, will probably continue to be the operation of choice in the majority of cases.

A procedure which I consider of value in connection with this operation is the removal of all fluid from the uterus by means of a suction apparatus, before the membranes are widely opened. This is done in order to lessen the danger of soiling the peritoneum.

Post-operative ileus is a complication we have found most frequent, most annoying. DeLee's method of turning the patient on her stomach with rectal tube inserted, and the foot of the bed elevated, is often of service in relieving this.

The following rather unusual case is my excuse for this brief report.

Mrs. Z., para II, aged thirty, entered the hospital September 3, 1919, in labor at full term. Patient had always enjoyed good health, heart and kidneys negative. Has slightly contracted pelvis.

\*Presented before the Seventieth Annual Session Iowa State Medical Society, Des Moines, Iowa, May 11, 12, 13, 1921.



Just two years before I had delivered her of a nine pound boy by a rather difficult high forceps operation.

For three weeks previous to her admission Mrs. Z. had suffered from hay fever and asthma. For five days she had had a severe cough.

On admission she was having pains fairly regularly, every five to six minutes. And every uterine contraction brought on a severe paroxysm of coughing, very similar to the paroxysms of whooping cough. This cough, with which she would choke and frequently vomit, rendered her pains quite ineffectual.

Vaginal examination at this time showed the head not engaged, cervix partly effaced.

Hoping that as labor progressed her pains would become more effective, I left her to her nurse and her cough, for which I prescribed a sedative.

A rectal examination at the end of twenty-four hours showed the head still riding on the brim of the pelvis, os still undilated. Pains were now every three minutes, and still accompanied by that awful cough. The patient was beginning to show the effect of her prolonged struggle. It was evident some method of delivery must be effected to save mother and child: Either a forced dilatation, followed by high forceps with its high fetal mortality, a vaginal Cesarean Section, or an abdominal. Believing the latter offered an easier and equally safe delivery to the mother and much brighter prospects for the child, I proposed this course to the patient who was glad to accept anything that promised relief from her pain and cough.

Under gas and ether which she took very well, a transperitoneal section was done. Before opening the uterus the tubes were sectioned, and the ends buried in the broad ligaments.

A nine pound girl was delivered through an incision in the anterior uterine wall and the uterus and abdomen closed in the usual way.

The mother made an uneventful recovery. She told me a few days ago that she had never been so well before in her life. And her babe is the picture of health.

#### Discussion

**Dr. J. F. Herrick, Ottumwa**—When I began to practice, Cesarean Section was comparatively rare; now it is comparatively frequent. From his paper we may judge that Dr. Deering has been conservative and yet safe. I feel that the experienced obstetrician of the great hospitals oftentimes successfully deliver a patient that the ordinary physician could not deliver, and it may be left to him to deliver by the usual route. However, in a certain class of cases where he could succeed, the practitioners available may not succeed, and in this class I believe that Cesarean Section performed by a general surgeon who may not perhaps be familiar with obstetrics, may be a safer procedure than delivery by the normal route. In one instance, I feel that if I had done Cesarean Section my results would have been better than they were. That was in a case of central implantation of

placenta prævia. I believe that in any case of central or nearly central implantation of placenta prævia, Cesarean Section should be carefully considered, as in a great many cases it would doubtless be the safer method of delivery.

**Dr. Charles H. Magee, Burlington**—I commend the paper, and simply as a matter of interest wish to relate another unique case of Cesarean Section. Some two years ago I was called to the hospital to see a peculiar state of affairs: A woman in labor, the obstetrician a young strong fellow, and the presentation was a breech, he had taken hold of the body and pulled it away, leaving the head in the uterus, with two of the vertebrae, the atlas and axis. I tried to perforate the head by having an assistant steady it from above, but it turned each time and I was afraid I would perforate the uterus. So I performed Cesarean Section and removed the head, against the recommendation of the reader of the paper never to perform this operation when very many vaginal examinations had been made. But I was "up against it," according to the old saying. While I can say that the mother is all right, I cannot say the same of the child.

**Dr. J. S. Weber, Davenport**—We have two general indications for Cesarean Section, the absolute and the relative. I think that with more conscientious study and riper experience, the field of relative indications should be broadened. As Dr. Murphy used to quote, "Conscience doth make cowards of us all." We should not be afraid to go ahead and do what is right even in the face of untoward circumstances. During a practice of nineteen years I have delivered successfully both as to mother and child, six patients by transperitoneal section. I am sure you cannot accuse me of being an ultra-enthusiast, for that number of cases surely denotes conservatism. Referring to a practical point in Cesarean Section, in the last two years I used the transverse incision across the fundus of the uterus. You will find that by this method delivery is much easier and the uterine incision is then not in line with the abdominal. An unusual case which will illustrate another indication was referred to me about two years ago. The patient was in uremic convulsions which did not respond to heroic medical treatment. We figured that the quickest way out of the difficulty was the best on account of the woman being a primipara and was not yet in labor. She was delivered successfully by Cesarean Section. She had uremic amaurosis, and there was one convulsion after delivery. A practical point in a prophylactic way is that we can prevent some types of dystocia in the female by seeing to it that the diaper in the case of the female infant is not too tightly applied. We have seen some of the old practical nurses wrap up an infant almost like an Indian papoose. If you will take measurements of the pelvis, you will find that by tight wrapping the pelvis of an infant you can reduce its diameter about an inch, and if this is continued you have the beginning of a justo-minor pelvis.



## THE ROLE OF THE ALKALINE PHOSPHATES IN HEALTH AND DISEASE

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We must assume that the practice of medicine in these days is a commercial enterprise; that is, after due preparation an individual takes up this profession as a means of livelihood; should he not be given all honorable chances to make a living therefrom?

In practically all commercial lines we find that competition is the life of trade, so also do we find a similar condition existing in the medical profession, and not restricted, for here it exists up to the one hundred per cent mark.

In commercial life success depends on the line of goods carried; their display, but above all, on the amount of printer's ink used as a means of advertising their wares. It is true the medical man can use printer's ink, but not in the sense of his brothers in other lines; he must depend on medical journals, a medium that does not reach the public, although the public are the ones that receive any benefit from his knowledge. That publicity by such means being limited to only a very small number, the average man has but one way of displaying his ware; the dissemination of his knowledge to the public through the results he may obtain in his practice.

Indexed there are over thirty-five hundred diseases; comment is unnecessary, it would be obviously impossible for any one individual to so thoroughly master the different symptomatology that they could positively differentiate each and every malady. Therefore, argument seems unnecessary, the specialist is a person we cannot well dispense with, and group diagnostic clinics have an important place.

An important question might arise here; can all patients avail themselves of expert knowledge; how many of the average daily patients seen at our offices, and a fair number that may be seen at their homes, need helpful hands from the outside?

Men specially skilled, even group diagnostic clinics are located at medical centers; and admitting that the services can be obtained free, can all reach such centers? It has been said, there is very much truth in the statement, "not over five to eight per cent of cases need skilled opinion, if the medical man be fairly possessed with knowledge of his calling."

The writer will question the remark made some time ago by a colleague discussing a medical sub-

ject, "The general practitioner is passing away." No greater mistake was ever made; the general practitioner has always been and always will be the most luminous satellite in the firmament of medicine.

Disease of the human subject can be divided into two classifications: organic and functional. In the organic there is an underlying anatomical change present, whereas, in the functional there is no such condition existing.

In organic disease the symptoms are located at one or more definite spots; they are evident to the naked eye, or quickly made so by slight examination; questioning, auscultation, percussion and the like.

With the functional it is entirely different. Here the symptoms cover the body like a blanket; they are at one place today, at another tomorrow. These are the cases that throw obscurity into the medical case and cause the physician to seek further advice.

We know that there is a constant bodily change taking place, in fact, we are told by scientists that there is a complete change of the human body every seven years. This change is through cellular destruction, but at the same time we find reconstruction; the cast off material is being constantly replaced by new.

Elimination of cast off material takes place through the lungs, skin, bowels and kidneys, whereas, the intake for reconstruction is furnished from the food and liquids taken by the mouth. All the processes are by chemical changes; the kidneys are the two most important excretories; the urine is the most available excretion for examination; what does this fluid show regarding the daily metabolic change?

We know that the brain is the seat of all life, the source from which every function, action, thought or word arises. Of course it is through the blood stream that nutrition is carried to the different structures, but this nutrition is delivered to the blood through a process of digestion and assimilation, a function that is entirely under control of the nervous system.

It must be quite clear, if the nervous system is the seat of all energy and it has a specific nutrition, this nutrition must be supplied in normal amounts, and it must be used, or it should be in a similar manner, otherwise something and someone must suffer sooner or later.

Looking at the subject in a more simplified manner, it must be admitted that the underfed individual cannot be expected to produce the same amount of manual labor as the well-fed man; and the same should hold good as to the overfed; they

become inactive; their organs do not act normally.

That blood, muscles and bone have a specific nutrition there is no question; the same may be said of the nervous system, in fact, it is taught in physiology that phosphorus, lecithin and nuclein are the food of the nerve cells. The value of these elements in the daily life of the individual is well stated by the sayings of one of the world's greatest scientists; "when all the phosphorus is taken from the earth, the human race will cease to exist."

Phosphorus, lecithin and nuclein are taken from the food we eat; they reach the brain where they perform their function after which the residue is eliminated as phosphates, and to a great extent by the urine. Phosphates appear in the urine under two forms; the earthy, or calcium and magnesium phosphate, and the alkaline, as sodium and potassium phosphates. The earthy can be found in freshly passed urine (gives it a greenish hue) and readily dissolves by acid, or they may appear on boiling; viewed under the microscope they resemble saw dust. This form of phosphates may be dropped from further consideration, for unless present in marked quantities, when they must be filtered out, they are of little or no value as an aid in diagnosis.

The alkaline phosphates, or those that show nerve metabolism are never seen except after precipitation; they appear as crystals, fern shape in character, and are present in amounts according to the quantity of nutrition present in the neurones, the quality, and the way it is being used. (In the original article, "The Phosphatic Index" the writer has shown the crystals appearing under, A—normal; B—want of nutrition; C—pregnancy between the third week and end of third month; D—oncoming nerve cell degeneration; E—great nerve cell irritation, hysteria, etc.)

The phosphatic index, as it is known, is a simple procedure; but ten minutes is necessary using the second urine passed in the morning.

Fill phosphatometer with urine to U, add sol. U to S (Mag. sulph., Ammo. chlor., Aq. ammo. commercial 10 per cent, an ounce of each, water eight ounces filter and let stand two or more days before using), shake thoroughly to mix solution and urine and set aside for ten minutes.

A white precipitate should form at once, in density according to the amount of phosphates present, and will sink according to the specific gravity of the crystals. If it reaches N. P. in ten minutes in a practically solid mass, no matter what may be the case under treatment, the nerve cells as a factor may be eliminated. Where the precipitate only falls part way, is light and fluffy,

or goes below N. P., nerve cell nutrition is low (you have an analogous condition to a deficiency of hemoglobin with a diminished number of red cells) and must be supplied artificially so that normal energy may be distributed to the part or parts involved that are suffering.

Where the precipitate remains above N. P. in a practically solid mass at the end of ten minutes, nerve cell irritability is evident. This is almost pathognomic of all acute nerve conditions, and especially so in all cases of hysteria or those individuals bordering on the same. The increased metabolism (alkaline phosphatic elimination) is furnished from the reserve, and unless the output be checked, the reserve sooner or later will become depleted and accompanied, as it is always is, by nerve tire, commonly called neurasthenia with all its distressing symptoms.

Briefly reported the following cases will show the remarkably rapid results that follow the discovery of the true condition:

(These cases were seen in consultation after weeks to months of treatment with very little if any result.)

**Case A**—Mrs. W. For six or eight weeks a most aggravating cough; various cough remedies had been used without any apparent result; no tubercle bacilli could be found. General systemic symptoms: lost several pounds in weight; insomnia becoming more marked as time elapsed; more or less pain in different parts of the body; that involving the arm and shoulder was neuritic (brachial); no appetite and a constant feeling of fatigue. Examination of the urine showed no pathological condition to exist involving the urinary tracts; phosphatic index 70 per cent minus (below normal); crystals a deficiency of nerve cell nutrition. A mixture of phosphorus, can. ind. and nux vom<sup>1</sup>, half a teaspoonful in milk half an hour after meals was advised. Cough ceased about the fourth day; in two weeks she had gained five pounds; in four weeks was feeling perfectly well with an index about 5 per cent minus. (Maybe the homeopaths are right, phosphorus is a specific in lung troubles.)

**Case B**—Miss E, age eighteen. A more deplorable condition is seldom met with, although the condition proved to be of a functional nature. For over a year, in which time she had lost over twenty pounds in weight, she complained as follows: no appetite, except for candy and like things; marked leucorrhea; obstinate constipation; constant backache; insomnia most distressing; headache and great exhaustion; a mitral murmur was found, but no apparent pathological heart condition. Teeth, tonsils and sinuses had been carefully gone over but strange to say nothing abnormal was found. Various modes of

1. Phosphorus to be of value as a remedy must be given in its elementary form, otherwise it is inert. The formula referred to is made for me by the Richardson Drug Co. of our city, and contains phosphorus in its free state.



treatment by iron, nux vomica, hyposphosphates and the like gave no relief; she was sent to consult a skin specialist of our city on account of the development of an eruption, which proved to be lichen planus; the doctor visited, referred her to the writer as to her general condition.

No organic condition was found, and urinary examination showed a faint trace of albumin (anemia); great increase of indican (marked intestinal fermentation); crystals of oxalate of lime (defective metabolism); large quantities of vulvar and vaginal epithelium (desquamation due to leucorrhea); no pus, casts, blood or other abnormal findings; the phosphatic index showed 90 per cent minus. Explaining the condition found to Dr. Diehl, he advised prescribing for the general condition first and watch results. The following was advised: Co. mix of phos. (Dowd) two ounces (to replace the depleted nerve cells), fl. ex. Valerian one ounce (for nerve cell irritability); res. podoph. grs. 3 for constipation; half a teaspoonful in milk, half an hour after meals. In four weeks afterwards this young woman reported as follows, "Bowels moving regularly; good appetite, gained six pounds; sleeps well; practically no more leucorrhea, and the eruption on hands fading rapidly." At the end of two months an examination revealed an index about 15 per cent minus; no albumin; no murmur; had gained fourteen pounds in weight and skin eruption practically gone.

This case was very clear as to the true condition; a general systemic involvement in which the skin, mucous membranes and blood cells were effected and all due to a want of nerve cell nutrition.

**Case C**—Mrs. C, married, age thirty-five. More or less pain involving the whole body at different times. Never confined to bed, but movement of joints (ankles, knees and shoulders), caused pain and movement was more or less retarded, not constantly, but at times as she termed it. Sleep was much interfered with on account of pain in the shoulder and arms; as usual with women, she was constipated. Off and on for some six months she had received treatment for rheumatism; her teeth and tonsils had received attention but no relief. Brachial neuritis was quickly diagnosticated, a slight trace of albumin showed anemia; no heart involvement, although at times it, as she expressed it, "felt as though wanting to break from its walls so rapid did it beat."

A phosphatic index was found 80 per cent minus and the above mentioned mixture advised. In two weeks she reported as free of pain and feeling fairly well; she made a perfect recovery. The suckling baby cannot ask for food when it is hungry; it cries. The nerves cannot speak, their word for hunger is pain.

We know that it is as uncomfortable to be too hot as too cold; in contradistinction to the above reports, with a low index, the following report will show an almost similarity of symptoms, yet rapid relief from drugs that have an entirely dif-

ferent action as to those mentioned; the cause was different as shown by the phosphatic index:

Mrs. M, aged thirty-eight. More or less pain of a neuralgic nature throughout the entire body; she had suffered for some time from a brachial neuritis involving the right shoulder. Headache was a common complaint, as she expressed it, "I am ashamed at the noise (borborygmus, that my stomach makes, and always when I am out in company;" she was obstinately constipated. Complaining of a great deal of eye trouble, for which she had seen different oculists, she finally consulted Dr. Clemesha who asked for an index saying he could find nothing the trouble with the eyes. She informed me she could not sew nor read for over ten minutes without headaches and had been unable to attend the theatre or picture show for several years; the same conditions (headache) would occur. All sorts of diagnoses had been given; ptosis of stomach and intestines, also kidney, chronic appendicitis, with operation advised, but not accepted. No pathological condition was evident from the urine; the index was 75 per cent plus with normal crystals, but slightly small.

She was put on bromide of gold and arsenic, ten drops three times daily in water, increased one drop a day to twenty. Results were a little slow at first; she received but little improvement for three weeks or so, but at the end of six to seven weeks was entirely free of pain and gas formation; bowels were moving regularly; she could read and sew without any headache resulting and had visited a theatre for the first time in five years without any bad results; she gained five pounds in weight.

Under the same heading, high index, the following case of high blood-pressure accompanying chronic interstitial nephritis must convince the most skeptical of the great value of reducing arterial tension when the nerve cells are acting as a partial cause:

Dr. W. (personal case). Bleeding from the right nostril, greatly agitated. Advised to let bleeding continue, as it was not severe and was possibly an effort of nature to avert death, or at least apoplexy; elixir valerinate of ammonia was ordered as a sort of a sedative, with a request for a sample of urine for examination; his blood-pressure was 250.

A very few minutes showed serious kidney involvement; lots of albumin and casts showing marked degeneration; the index was 150 per cent plus. Bromide of gold and arsenic was ordered at once with advice to at once have careful examination of the heart, which appeared to be in a very bad condition. The doctor, although very ill, being confined to his bed on account of the heart condition, has had no nose bleeding since and his pressure is 190; the mixture has also appeared to have a most beneficial action on the heart muscles, he is quite free from all symptoms.



# The Journal of the Iowa State Medical Society

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## SCHICK TEST AND ACTIVE IMMUNIZATION AGAINST DIPHTHERIA

Important papers have recently appeared in medical journals relating to the Schick test. The New York Medical Journal for August 17, 1921, contains an important paper by Schick of Vienna on this subject. The antitoxin treatment has for several years been the standard treatment when the bacteriological examination of throat showed the diphtheria organism, and "the rule has been laid down that diphtheria was present whenever the bacilli were found, and that, on the other hand, there could be no diphtheria without the organism." Schick contends that the rule requires certain modifications. It is a recognized fact that the causative organisms can be found in the throat of patients who have already recovered from the disease; 75 per cent in a state of varying virulence up to three weeks, and in two per cent after more than ninety days. Confusion arose when typical Klebe-Loeffler bacilli were found in the mucosa of the nose and throat of healthy persons, who had never suffered from diphtheria. The presence of the diphtheria bacillus in healthy throats furnished grounds for an attack on the accepted etiological factors of diphtheria by those opposed to scientific methods of diagnosis. The significance of these findings, was to demonstrate the fundamental resistance of the body to infection, and except an individual predisposition was present, infection would not occur. Investigation has seemed to establish the

fact that carriers acquire the organism by direct contact with persons actually suffering from diphtheria or with other carriers. To relieve the confusion that arises from finding diphtheria bacilli in the throats of the vast majority of the population, with no apparent consequences, while only a comparatively limited number of individuals, chiefly children, between the ages of one to five fall victims to the disease, it has been found that antitoxic substances exist, both in adults and in infants. "These observations led to the formation of the axiom that susceptibility to diphtheria was caused through lack of specific antibodies. It has been confirmed repeatedly that these antibodies are absent in children suffering from diphtheria, and that diphtheria cannot occur in individuals possessing protective bodies." Examinations on a large scale became possible after a way had been discovered of testing for the presence of antibodies by means of the intradermal injections of small quantities of toxine, namely one-fiftieth of the minimum lethal dose for a guinea pig weighing 250 grams. The following figures are the result of extensive animal experiments carried out by Greer and Kossowitz at the Vienna Children's Clinic. If the skin shows no reaction to the injection, the result is negative. In positive cases a sharply defined spot of erythema is noticed with an area of infiltration possessing a diameter of ten to thirty m.m. A negative result not only proves the presence of antibodies, but also excludes the existence of diphtheria. There are but two exceptions to the rule; these occur in virulent or septic cases of diphtheria and in cachectic children. It may be stated "that the intradermal test may carry more weight than the result of bacteriological examination." "A positive intradermal reaction only proves the absence of protective bodies" and does not necessarily signify that the affection present is diphtheria, and that infection does not always occur, even if antibodies are absent. This may be due to mechanical protection derived from intact mucus membrane against bacterial invasion. This explains why after operations, as removal of tonsils or adenoids, diphtheria infection follows in the absence of protective bodies.

In pursuing the subject Schick points out that most authorities hold that antibodies are the result of a previous attack of diphtheria. And as it is held that the presence of antibodies creates an immunity it is interesting to know how long after an attack the immunity may exist. It has been shown that the antibodies practically disappear in a year, and in some cases earlier, as is shown in repeated attack at comparatively short intervals,

thus it would seem that the antibodies begin to disappear with convalescence. Schick observes that cases which manifest symptoms of increasing severity in successive attacks may be explained by assuming that the cells had failed to acquire the faculty of accelerated antitoxine formation.

The significance of Schick's work is to show that the bacteriological examinations which we heretofore relied on, is not to be entirely relied upon and that in an epidemic of diphtheria the question of natural or acquired immunity should be tested by the Schick method.

The practical value of the Schick test has been accepted by the United States Army. At the Station Hospital, Coblenz, Germany, under the direction of Col. F. R. Keefer, M.C., chief surgeon of the American Forces in Germany, the soldiers have been tested out by the Schick method with striking results as to immunity.

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#### UNITED STATES PUBLIC HEALTH SERVICE

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In this number of the Journal, we are printing a bill for reorganization of the Public Health Service which we trust every member will read with care.

The older members of the medical profession will remember the fear that came upon us every summer, particularly in the southern states, on account of yellow fever. There were the dangers from travel in the tropics; the difficulties of trade; the fear of importing dangerous tropical diseases; all of which has disappeared but not permanently unless great watchfulness is observed. We know how to watch and guard against the danger, but the watchers and guardians must be trained men, devoting their energies to this one particular thing. Most informed people know that within the last six years, our trade in the tropics has increased nearly six times. We know the value of this increased trade. We know furthermore, that if watchfulness is not observed the dangers are correspondingly increased. Safety is not accomplished automatically but by watchfulness, day and night, and additional forces must be employed of highly trained men.

Then consider our own internal affairs; the various infectious diseases which were at one time so prevalent, have now almost disappeared, but are always ready to spring up if there is negligent watchfulness.

From all directions come a demand for more and better trained guardians of public health. Then there are hundreds of thousands of returned soldiers suffering from various diseases

contracted in the service of our country. These men require, and are entitled, to the services of trained physicians, surgeons, and specialists, with the facilities, and means of rendering the best and most efficient care and treatment. It seems almost unnecessary to say that this work should be conducted by trained full time men, whose training and fitness especially qualify them to care for the men whose peculiarities and sufferings have rendered them quite different from communities in general in which most physicians practice. These men generally believe their disabilities are due to government service for which they, themselves, have no responsibility. We have had enough experience with the care and treatment given by practitioners in private practice who often have little patience with the peculiarities and demands of ex-soldiers.

When we consider all these things, we feel that the government should provide liberally for public welfare, which we believe the government is quite willing to do. But there is danger that the law makers may make a serious mistake unless the right way is pointed out by men who ought to know.

There must be provided a sufficient number of medical men to render this service. These men must be highly trained and compensated sufficiently to make the service attractive. They must be full time men, who may devote their entire energy to the conduct of special lines of work.

The question of compensation is of vital importance. The men needed are the successful men, men who may earn a larger income than the government can afford to pay in the form of salary. They must be placed on the basis of the regular army service as to rank, promotion, allowance, pay and retirement. If all this is not provided, the government must depend on the odds and ends of the medical profession. It is not only a money consideration that will influence suitable medical men, but the respectability of the service. No man the government needs will accept a service he feels he must apologize for, but a service which requires a careful training, and a rigid examination as to qualification and moral character, that carries rank and promotion. This does not imply a medical aristocracy, but just a self-respecting employment in a self-respecting government.

If the provisions we have outlined are not adopted, there will always be a shortage of public health doctors, made up largely of unsuccessful and unfit men. If the work is given over to private doctors the condition will even be worse;



this we know from personal observation in the early days of the war risk service, and for many years' observations of local health officers.

The service is of such vital importance to the country, we feel that every physician should use all his influence with his friends in Congress to secure the passage of the bill referred to.

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### THE TRIALS OF BOOK PUBLISHERS

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Those who purchase medical books, or subscribe for medical journals, are reminded from time to time of the expense of medical literature.

The agents of publishing houses complain that the sale of books is slow, and wonder why it is, that agents of physicians' supply houses are flourishing. A little reflection would bring the solution. The agent of a supply house furnishes a free lecture on the therapeutic value of the product he has to sell, and furnishes without a cost a handful of literature that sets forth the class of cases the product will cure, the indications for its use, and method of administration, all of which makes the practice of medicine easy and profitable, and materially lessens the need of books. A book agent recently after a day of discouraging canvassing, said that a doctor he called on stated that he had no need of books because he attended clinics. In this day of commercialism it is sad to think that free clinics are destroying the medical book trade. But it may be that this was only an isolated instance.

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The Hahnenianmian, an excellent journal published by the homeopathic medical society of Pennsylvania, recently issued a circular letter to the members of the society that the greatly increased cost of publishing the journal would render the long cherished hope of enlarging the publication impossible, unless 1,000 new subscribers could be secured, in that event thirty-two pages could be added. The journal has at present 1750 subscribers and publishes sixty-four pages of reading matter at a subscription price of \$3.00. We sincerely hope that the 1,000 new names may be secured.

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### GORGAS MEMORIAL INSTITUTE OF TROPICAL AND PREVENTIVE MEDICINE

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#### To Be Established in Panama

Of particularly deep interest to all members of the medical profession and to all others interested in questions of public health and sanitation is the recent announcement of the plans of the board of directors of the Gorgas Memorial for the establishment of a Memorial Institution in the City of

Panama for research and the extension of means of prevention of tropical diseases.

Anyone who has seen the old Panama at the time of the abandonment by the French of the work of the first canal, involving so much wasted energy, the loss of thousands of lives and some hundreds of millions of dollars, could not but be struck with the present aspect of Panama, its splendid sanitation, its beautiful cities, its five hospitals, and above all, by the completion of the Panama Canal itself, making Panama one of the most beautiful and salubrious spots in the world.

It is well known to members of the medical profession that the accomplishment of this great work and the sanitary regeneration of Panama are due to the efforts of the late William C. Gorgas, surgeon general of the United States Army, and to his efforts, more than to any other, success for the work must be accredited.

Coupled with his earlier work in Cuba, the accomplishment of General Gorgas in conquering yellow fever and malaria and conclusively demonstrating the fact that health, even in the tropics, is a purchasable commodity has sent forth his fame throughout the world. Perhaps no single life has done more for the good and well being of humanity, and his great attachment for Panama has made the proposed memorial to carry on the work he so ably started, the most practical tribute which could be conceived to his memory.

The honor for the conception of this idea and of bringing it into actual existence belongs to Dr. Belisario Porras, the president of the Republic of Panama, who in the name of his government has tendered the site, a building, and all required equipment, valued in all at approximately \$500,000. At the request of Dr. Porras, Admiral Braisted, formerly surgeon general of the United States Navy, with the cooperation of others equally interested in making this memorial possible, incorporated the Gorgas Memorial Institute for the purpose, in addition to directing the scientific work, of raising an endowment fund of five million dollars for maintenance. The following officers and directors were elected: President, Rear Admiral W. C. Braisted, U. S. Navy (retired); vice-president, Dr. Franklin Martin, secretary general, American College of Surgeons. Directors: Dr. Belisario Porras, president of the Republic of Panama (founder); Dr. A. S. Boyd, chief of surgical service, Santo Tomas Hospital, Panama; Surgeon General Hugh S. Cumming, United States Public Health Service; Surgeon General Merritt W. Ireland, United States Army; Honorable John Bassett Moore, judge of the International Court of Justice, The League of Nations; Honorable Leo S. Rowe, director general, Pan American Union; Surgeon General E. R. Stitt, United States Navy.

Dr. Richard P. Strong of Harvard University, chosen to head the scientific board, will be assisted by Admiral E. R. Stitt and Lieutenant Colonel J. F.



Siler. Other members of the scientific board will be announced at an early date.

The advisory board, of which Secretary of State Hughes is honorary chairman, consists of the diplomatic representatives of all the Central and South American countries and representative committees of the leading national medical and surgical associations, public health groups, and many southern societies by which Gorgas was beloved.

The proposed memorial will be built adjacent to the new two million dollar Santo Tomas Hospital, and the use of its complete facilities has been tendered the Gorgas Memorial to aid in the launching of the work.

The memorial building itself will consist of a dignified classic structure patterned after the lines of the Pan American Union in Washington, D. C. It will house the laboratories and provide facilities for the teaching of students from the various tropical countries and from our own leading schools of tropical medicine, such as Harvard, Johns Hopkins, and the University of California.

In commenting upon the field of work before the Institute, Admiral Braisted stated that among the diseases which will be studied in addition to yellow fever and malaria, are dengue, pellagra, beriberi, leprosy, cholera, and the various mycoses. It is the consensus of opinion that tremendous advances can and will be made through the efforts of the research work in this field.

The tropics, which are so prolific in vegetation of every kind, have been equally fertile in the development of all types and kinds of dread diseases, which tended to make them unsuited and impossible of habitation until careful sanitation made them safe. They then can become the most desirable, the most attractive, and the most prosperous of abiding places. This very fact has made the City of Panama extremely desirable as a home for the work to be undertaken.

The humanitarian benefits to accrue from the establishment of this wonderful tribute to General Gorgas are almost beyond conception. Its complete success means the fulfillment of General Gorgas' greatest desire, that of eliminating these devastating tropical diseases, and at the same time is a fitting recognition of the worldwide importance that the profession of medicine played in the construction of the Panama Canal.

#### IMMUNOLOGIC EXPERIMENTS WITH STREPTOCOCCI FROM INFLUENZA

From a study of the effects of intratracheal injection of green producing streptococci isolated in influenza and the accompanying pneumonia, we have found a strain or strains which possess marked and peculiar virulence. With these, the picture of influenza has been closely simulated in animals. A monovalent serum has been prepared in a horse by the injection of one strain isolated from the blood in a

fatal case. The agglutinating power of this serum, type pneumococcus serum, hemolytic streptococcus serum, and normal horse serum, has been tested against numerous strains isolated from the sputum, throat, blood and lung exudate in cases of influenza. Specific agglutinations with the monovalent serum have been obtained in a large number of cases of influenza. The cases studied came from widely separated communities, most of the negative agglutinations occurring when the cultures were made during convalescence. However, this was true in a few instances in the early part of typical attacks. This specific strain, according to this test, tends to disappear promptly during convalescence, and is rarely found in normal throats. Some of these strains, just as has been found to be the case with the streptococcus from poliomyelitis, lose their specific character promptly on cultivation, while others remain susceptible to specific agglutination months after isolation. Most of the specific strains do not ferment inulin and are not bile soluble. The agglutination experiments showed that the green-producing strains of this streptococcus from influenza are immunologically identical, or closely related. Single highly agglutinable strains have been found to absorb the specific agglutinins from the serum for all the strains. Non-agglutinating strains, including Type II pneumococci, remove little or no agglutinin. According to these tests, therefore, it appears that among the green-producing streptococci or diplostreptococci in influenza there is present a strain that has pandemic characteristics.—E. C. Rose-now, Rochester, Minnesota, Journal of the American Medical Association.

#### INCIDENCE OF PNEUMONIA

In Vaccinated and Unvaccinated Troops from December 1, 1920 to March 31, 1921, 2nd Division, Camp Travis

	PERSONS		INCIDENCE OF PNEUMONIA	
	Number	Per Cent of Total Strength	No. of Cases	Rate Per 1000
Complete vaccination .....	840	5.4	0	0
Partial vaccination .....	526	3.3	0	0
Total vaccination..	1366	8.7	0	0.0
Not vaccinated.....	14296	91.3	19	1.33
Total average strength .....	15632	100.0	19	1.21

In 1366 completely and partially vaccinated individuals no case of pneumonia occurred, while in 14296 unvaccinated persons 19 cases were reported or one in every 752 men. These findings are not conclusive but they indicate that further work along this line would probably yield promising results.

Almost 50 per cent of the 17th Field Artillery Regiment was vaccinated but a short time later this regiment was ordered away and the results of this large number of vaccinations is not obtainable.

Type of Pneumococcus—Of the nineteen cases of pneumonia which occurred eleven were typed with the following results: Type I, 2; Type II, 1; Type III, 1; Type IV, 7.

Of all specimens typed, some of which did not have pneumonia: Type I, 5; Type II, 7; Type III, 3; Type IV, 30.

Conclusions—In order to make a complete and trustworthy study of the value of pneumococcus vaccination, it will be necessary to have a large number of vaccinated individuals. This can only be secured by:

(a) Compulsory vaccination of at least 7,000 men or approximately one-half of the division. The present experience indicated that this vaccine causes no inconvenience and therefore there can be no objection to its use.

(b) Allowing these regiments to remain at one location during the time of observation, probably four months, as approximately 50 per cent of one regiment was ordered away soon after this study was undertaken.

(c) Some officer should be detailed to this study as a special work, as experience has shown that in no other way can proper results be obtained.

The second division is located at Camp Travis, Texas and is a separate command. All sick are transferred to Station Hospital, Fort Sam Houston, Texas, another separate command. The laboratory studies are made by the Corps Area Laboratory. Part of the information on each case must be collected from each source and involves the cooperation of some fifty medical officers and a host of non-commissioned officers. One man assigned for this work can secure it all at the source, and such statistics, if they include a large number of cases, will be reliable and trustworthy.—(Medico-Military Review.)

### BRONCHO-PULMONARY SPIROCHETOSIS

The occurrence of broncho-pulmonary spirochetosis is comparatively rare. This circumstance, together with the peculiar characteristics of the disease, makes it a particularly individual problem. The victims of this disease are apparently suffering from tuberculosis. They have recurring hemoptysis for months. Usually chronic bronchitis, with loss of weight, emaciation, and a chronic cough ensue. Hemorrhages sometimes last for weeks and then may stop for weeks. These cases are not tuberculosis, however, for upon examination of the sputum no tubercle bacilli are found but large numbers of motile spirochetes. Bloedorn and Houghton in a report of three cases found that these organisms are more refractive and active than the treponema pallida, and that they tended to be of two distinct types. One type was thin, delicate, and threadlike with

more regular and numerous indulations; the other type was coarser, with few indulations and heavier staining.

There has been little investigation made upon this disease. Castellani first described it in 1906. Since then there have been reports of cases occurring for the most part in the tropical climates. It is probable that the disease is more common in the United States than is realized, but because of its close symptomatic resemblance to tuberculosis, it is seldom recognized until the sputum is examined and the characteristic organism identified. Cases respond to treatment with the arsphenamins very readily. There have been cases which when treated for tuberculosis were considered hopeless but when treated with arsphenamin, have recovered completely.

In view of the fact that this disease is more prevalent than is realized and that it does respond to treatment, it is important that every case of supposed tuberculosis that does not show tubercle bacilli in the sputum should be carefully examined for spirochotosis and syphilis. Prompt and intensive treatment with the arsphenamins may be expected to produce well-nigh miraculous results.

### MEDICAL NEWS NOTES

#### Public Health Service

A resolution protesting against the plan by which congress would replace medical reserve officers with civilian doctors was passed January 5, 1922 by former service men who are confined in the government reconstruction hospital at Colfax, Iowa.

The resolution, bearing the signatures of ninety-one disabled soldiers, will be forwarded to President Harding immediately.

The former service men are opposed to any change in the staff of the Colfax institution on the grounds that the reserve officers are familiar with their disabilities and show more interest in the general welfare of the patients than civilian doctors, according to one of the hospital officials.

It is said that the attempt to change the physicians of government hospitals is the work of a group of politicians in congress who are opposed to the Dyer-Watson bill, under which reserve officers were to have been placed on the staffs of the hospitals for a specified period.

Under the present arrangement physicians at the Colfax hospital and other government institutions are being subjected to an injustice, in the opinion of members of the medical staff at the Colfax reconstruction hospital, as they have no assurance that their connections with government institutions will be permanent.

"We have no future under the present arrangement. We don't know from one day to the next whether we will have a position or not," said one physician, a member of the medical reserve corps.

The former service men, at their meeting yesterday, also passed a resolution declaring that in their



opinion the government would be subjected to an added expense if any change to civilian doctors were made.

The movement to replace the reserve officers by civilians has been held up temporarily by congress. Representatives Ramseyer and Sweet of Iowa conferred with the veterans bureau in Washington yesterday, opposing the change. The American Legion is also protesting against the change.—Des Moines Register.

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## IOWA STATE UNIVERSITY NEWS NOTES

Dr. Don M. Griswold

Christmas holidays was a very cheerful time at the University Hospital and the Children's Hospital. Thanks, for much of this Christmas cheer is due to the many friends about the state who have established the custom of sending something for the entertainment of the patients each year. If these donors could personally see the joy caused by their thoughtfulness and consideration, they would be repaid many times for their interest. Adults received many gifts of nuts, candies, and cakes; while the children were bountifully supplied with toys, story books, and clothing. Clothing for the children is always acceptable, for they are frequently brought to the hospital on stretchers or in their bed clothing, and when they are well and ready to return, the problem of furnishing an outfit is quite a serious one. Each child in the hospital was furnished a liberal supply of books and toys and a reserve was put away for the benefit of children who will enter the hospital in the coming months. Several hundred dollars in money was also received, to be expended by the superintendent of the hospital for Christmas cheer for the children. Each ward in the hospital had a Christmas tree, and usually some hospital attendant acted as Santa Claus. The nurses showed great personal interest in the Christmas cheer and vied with each other in decorating the wards and arranging informal programs. The children who spent this Christmas at the hospital will remember it as a very pleasant memory.

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The new nurses' home on the new medical campus west of the river was open for occupancy January first. This dormitory is located on a bluff overlooking the Iowa river, which makes a delightful location. It will house 120 nurses, and has a cafeteria in connection. This building will house the pupil nurses and graduate nurses from the Children's and the Psychopathic Hospitals. There is another large nurses' home near the University Hospital for pupil nurses and four smaller homes for the graduate staff.

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The new Psychopathic Hospital which has been under construction for the past year was opened for patients, December 19. On that date the patients and the staff moved from their temporary quarters

to their new building. The new location is just west of the Children's Hospital, and is of the same general type of architecture. The central building contains the administrative offices, laboratories, class-rooms and a library. The two wings are equipped to accommodate thirty patients. Each wing is divided into three wards, which in turn are divided into individual rooms. Each ward has its own service room, dining room and prolonged bath room.

There is such a demand for the service rendered by the Psychopathic Hospital that a waiting list has already developed and many patients are sent for study. An out-patient clinic has been instituted and serves as a diagnostic clinic in cases where the consultation of the staff is desired.

The total staff of the Psychopathic Hospital numbers twenty-seven, and includes, beside the usual medical staff, a psychiatrist, a psychologist, a chemist, a serologist, a social worker, and a nursing staff especially trained in psychopathic work.

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Drs. L. W. Dean, Arthur Steindler and A. H. Byfield, held clinics at Sioux Falls, December 5.

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Dr. Merle French, assistant state epidemiologist, recently performed the Schick test on all the residents of the Independence State Hospital. The State Board of Control are anxious to keep diphtheria at the lowest possible point in state institutions, and are having this work done at the various places under their charge.

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## PUBLIC—NO. 97—67TH CONGRESS—S. 1039

### An Act for the Promotion of the Welfare and Hygiene of Maternity and Infancy, and for Other Purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby authorized to be appropriated annually, out of any money in the Treasury not otherwise appropriated, the sums specified in Section 2 of this Act, to be paid to the several states for the purpose of cooperating with them in promoting the welfare and hygiene of maternity and infancy as hereinafter provided.

Sec. 2. For the purpose of carrying out the provisions of this Act, there is authorized to be appropriated, out of any money in the treasury not otherwise appropriated, for the current fiscal year \$480,000, to be equally apportioned among the several states, and for each subsequent year, for the period of five years, \$240,000, to be equally apportioned among the several states in the manner hereinafter provided: Provided, That there is hereby authorized to be appropriated for the use of the states, subject to the provisions of this Act, for the fiscal year ending June 30, 1922, an additional sum of \$1,000,000, and annually thereafter, for the period of five years an additional sum not to exceed \$1,000,000: Provided further, That the additional appropri-



ations herein authorized shall be apportioned \$5,000 to each state and the balance among the states in the proportion which their population bears to the total population of the states of the United States, according to the last preceding United States census: And provided further, That no payment out of the additional appropriation herein authorized shall be made in any year to any state until an equal sum has been appropriated for that year by the legislature of such state for the maintenance of the services and facilities provided for in this Act.

So much of the amount apportioned to any state for any fiscal year as remains unpaid to such state at the close thereof shall be available for expenditures in that state until the close of the succeeding fiscal year.

Sec. 3. There is hereby created a board of maternity and infant hygiene, which shall consist of the chief of the children's bureau, the surgeon general of the United States Public Health Service, and the United States commissioner of education, and which is hereafter designated in this Act as the board. The board shall elect its own chairman and perform the duties provided for in this Act.

The Children's Bureau of the Department of Labor shall be charged with the administration of this Act, except as herein otherwise provided, and the chief of the children's bureau shall be the executive officer. It shall be the duty of the children's bureau to make or cause to be made such studies, investigations, and reports as will promote the efficient administration of this Act.

Sec. 4. In order to secure the benefits of the appropriations authorized in Section 2 of this Act, any state shall, through the legislative authority thereof, accept the provisions of this Act and designate or authorize the creation of a state agency with which the children's bureau shall have all necessary powers to cooperate as herein provided in the administration of the provisions of this Act: Provided, That in any state having a child-welfare or child-hygiene division in its state agency of health, the said state agency of health shall administer the provisions of this Act through such divisions. If the legislature of any state has not made provision for accepting the provisions of this Act the governor of such state may in so far as he is authorized to do so by the laws of such state accept the provisions of this Act and designate or create a state agency to cooperate with the children's bureau until six months after the adjournment of the first regular session of the legislature in such state following the passage of this Act.

Sec. 5. So much, not to exceed 5 per centum of the additional appropriations authorized for any fiscal year under Section 2 of this Act, as the Children's Bureau may estimate to be necessary for administering the provisions of this Act, as herein provided, shall be deducted for that purpose, to be available until expended.

Sec. 6. Out of the amounts authorized under Section 5 of this Act the Children's Bureau is authorized

to employ such assistants, clerks, and other persons in the District of Columbia and elsewhere, to be taken from the eligible lists of the civil service commission, and to purchase such supplies, material, equipment, office fixtures, and apparatus, and to incur such travel and other expense as it may deem necessary for carrying out the purposes of this Act.

Sec. 7. Within sixty days after any appropriation authorized by this Act has been made, the Children's Bureau shall make the apportionment herein provided for and shall certify to the secretary of the treasury the amount estimated by the bureau to be necessary for administering the provisions of this Act, and shall certify to the secretary of the treasury and to the treasurers of the various states the amount which has been apportioned to each state for the fiscal year for which such appropriation has been made.

Sec. 8. Any state desiring to receive the benefits of this Act shall, by its agency described in Section 4, submit to the Children's Bureau detailed plans for carrying out the provisions of this Act within such state, which plans shall be subject to the approval of the board: Provided, That the plans of the states under this Act shall provide that no official, or agent, or representative in carrying out the provisions of this Act shall enter any home or take charge of any child over the objection of the parents, or either of them, or the person standing in loco parentis or having custody of such child. If these plans shall be in conformity with the provisions of this Act and reasonably appropriate and adequate to carry out its purposes they shall be approved by the board and due notice of such approval shall be sent to the state agency by the chief of the Children's Bureau.

Sec. 9. No official, agent, or representative of the Children's Bureau shall by virtue of this Act have any right to enter any home over the objection of the owner thereof, or to take charge of any child over the objection of the parents, or either of them, or of the person standing in loco parentis or having custody of such child. Nothing in this Act shall be construed as limiting the power of a parent or guardian or person standing in loco parentis to determine what treatment or correction shall be provided for a child or the agency or agencies to be employed for such purpose.

Sec. 10. Within sixty days after any appropriation authorized by this Act has been made, and as often thereafter while such appropriation remains unexpended as changed conditions may warrant, the Children's Bureau shall ascertain the amounts that have been appropriated by the legislatures of the several states accepting the provisions of this Act and shall certify to the secretary of the treasury the amount to which each state is entitled under the provisions of this Act. Such certificate shall state (1) that the state has, through its legislative authority, accepted the provisions of this Act and designated or authorized the creation of an agency to cooperate with the Children's Bureau, or that the state has otherwise accepted this Act, as provided in Section 4

hereof; (2) the fact that the proper agency of the state has submitted to the Children's Bureau detailed plans for carrying out the provisions of this Act, and that such plans have been approved by the board; (3) the amount, if any, that has been appropriated by the legislature of the state for the maintenance of the services and facilities of this Act, as provided in Section 2 hereof; and (4) the amount to which the state is entitled under the provisions of this Act. Such certificate, when in conformity with the provisions hereof, shall, until revoked as provided in Section 12 hereof, be sufficient authority to the secretary of the treasury to make payment to the state in accordance therewith.

Sec. 11. Each state agency cooperating with the Children's Bureau under this Act shall make such reports concerning its operations and expenditures as shall be prescribed or requested by the bureau. The Children's Bureau may, with the approval of the board, and shall, upon request of a majority of the board, withhold any further certificate provided for in Section 10 hereof whenever it shall be determined as to any state that the agency thereof has not properly expended the money paid to it or the moneys herein required to be appropriated by such state for the purposes and in accordance with the provisions of this Act. Such certificate may be withheld until such time or upon such conditions as the Children's Bureau, with the approval of the board, may determine; when so withheld the state agency may appeal to the president of the United States who may either affirm or reverse the action of the Bureau with such directions as he shall consider proper: Provided, That before any such certificate shall be withheld from any state, the chairman of the board shall give notice in writing to the authority designated to represent the state, stating specifically wherein said state has failed to comply with the provisions of this Act.

Sec. 12. No portion of any moneys apportioned under this Act for the benefit of the states shall be applied, directly or indirectly, to the purchase, erection, preservation, or repair of any building or buildings or equipment, or for the purchase or rental of any buildings or lands, nor shall any such moneys or moneys required to be appropriated by any state for the purposes and in accordance with the provisions of this Act be used for the payment of any maternity or infancy pension, stipend, or gratuity.

Sec. 13. The Children's Bureau shall perform the duties assigned to it by this Act under the supervision of the secretary of labor, and he shall include in his annual report to congress a full account of the administration of this Act and expenditures of the moneys herein authorized.

Sec. 14. This Act shall be construed as intending to secure to the various states control of the administration of this Act within their respective states, subject only to the provisions and purposes of this Act.

Approved, November 23, 1921.

## 67TH CONGRESS, 1ST SESSION—S. 2764

In the Senate of the United States. November 16 (calendar day, November 22), 1921.

Mr. Watson of Indiana introduced the following bill; which was read twice and referred to the committee on finance.

### A Bill to Recognize and to Promote the Efficiency of the United States Public Health Service

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That not to exceed five hundred and fifty officers of the Reserve Corps of the Public Health Service, including fifty dental surgeons and fifty scientists other than medical officers, may be transferred to and commissioned in the regular corps of commissioned officers of the Public Health Service by the president, by and with the advice and consent of the Senate, in the grades of assistant surgeon, passed assistant surgeon, surgeon, senior surgeon, and assistant surgeon general (hereafter assistant surgeon generals shall be known and designated as medical directors): Provided, That no officer shall be commissioned or promoted under this Act until after passing before a board of regular commissioned officers of the Public Health Service an examination in accordance with regulations prepared by the surgeon general and approved by the secretary of the treasury and the president. Hereafter officers of the regular commissioned corps of the Public Health Service shall be promoted to the grade of passed assistant surgeon after three years' commissioned service, to the grade of surgeon after twelve years' commissioned service, to the grade of senior surgeon after twenty years' commissioned service, and to the grade of medical director after twenty-six years' commissioned service. For the purpose of future promotion any person appointed in a grade above that of assistant surgeon shall be considered as having had on the date of appointment service equal to that of the junior officer of the grade to which appointed in the regular corps: Provided, That any person transferred to and commissioned in the regular corps under the provisions of this Act at an age greater than forty-five years, if placed on "waiting orders" for disability incurred in line of duty, shall receive pay at the rate of 4 per centum of active pay for each complete year of service in the Army, Navy or Public Health Service, the total to be not more than 75 per centum: Provided further, That no officer shall be transferred to and commissioned in the regular commissioned corps under the provisions of this section who has not had a total of three years' satisfactory service in the Army, Navy or Public Health Service, a part of which service must have been between April 6, 1917, and November 11, 1918: Provided further, That all officers transferred and commissioned under this Act shall receive the same pay, allowances, and increases and shall be subject to the same rules and regulations as now are, herein are, or hereafter may be prescribed



by law or regulations for commissioned personnel of the same rank or grade in the regular corps of the United States Public Health Service.

A vacancy in the grade of surgeon general shall be filled by appointment by the president, by and with the advice and consent of the senate, from among the commissioned officers who have a total of not less than twelve years' commissioned service in the Public Health Service. The term of office of the surgeon general shall be for the period of four years, at the expiration of which term of office he shall, unless reappointed, be appointed a medical director. The surgeon general shall receive the same pay and allowances as the surgeon general of the United States Army.

Sec. 2. That persons who have had no service in the Army, Navy, or Public Health Service during the period between April 6, 1917, and November 11, 1918, may receive an original commission in the grade of assistant surgeon only; no such person shall be commissioned until after passing a satisfactory physical and professional examination before a board of regular commissioned officers of the Public Health Service. Said examination shall be conducted according to the rules prepared by the surgeon general and approved by the secretary of the treasury and the president. No such officer shall be promoted until after passing an examination in accordance with regulations prepared by the surgeon general and approved by the secretary of the treasury and the president. The provisions of this section shall not apply to the professors of the hygienic laboratory (seven in number) who may be appointed by the president, by and with the advice and consent of the Senate, in the regular commissioned corps in any grade below that of surgeon general according to the needs of the service, but no person shall be commissioned as such until after passing a satisfactory examination in the several branches of his profession before a board of commissioned officers; said examination shall be conducted in accordance with rules prepared by the surgeon general and approved by the secretary of the treasury and the president.

Sec. 3. That there shall be in the United States Public Health Service a corps of nurses, dietitians, and reconstruction aids. This corps shall consist of (1) one superintendent of nurses, one superintendent of dietitians, one superintendent of reconstructions aids; (2) assistant superintendents of nurses, assistant superintendents of dietitians, assistant superintendents of reconstruction aids; (3) chief nurses, chief dietitians, chief reconstruction aids; (4) assistant chief nurses, assistant chief dietitians, assistant chief reconstruction aids; (5) head nurses, head dietitians, head reconstruction aids; (6) nurses, dietitians, reconstruction aids; (7) student nurses, student dietitians, student reconstruction aids, as from time to time may be needed and prescribed by the secretary of the treasury. Original appointments shall be made by the secretary of the treasury upon recommendation of the surgeon general, after qualifying under rules prescribed by the civil service commis-

sion. The compensation of the corps shall be at the following annual rates: Superintendent of nurses, \$3,500; superintendent of dietitians, \$3,500; superintendent of reconstruction aids, \$3,500; assistant superintendents of nurses, assistant superintendents of dietitians, assistant superintendent of reconstruction aids, \$2,740; chief nurses, chief dietitians, chief reconstruction aids, \$2,360; assistant chief nurses, assistant chief dietitians, assistant chief reconstruction aids, \$1,980; head nurses, head dietitians, head reconstruction aids, \$1,800; nurses, dietitians, reconstruction aids, \$1,740. No member of this corps shall receive the congressional bonus now allowed by law. Student nurses, dietitians, and reconstruction aids shall receive such pay as may be prescribed by the secretary of the treasury. When a nurse or reconstruction aid is serving on duty in a hospital for contagious diseases, or for neuropsychiatric or tuberculous patients as a nurse or aid to such patients, she shall receive \$75 per annum increase in her pay. If for the convenience of the service a member of this corps is furnished quarters or subsistence she shall pay the cost thereof as determined by the secretary of the treasury, and the same shall be deducted from her pay.

Sec. 4. That all laws and parts of laws in so far as they are inconsistent with this Act are hereby repealed.

## SOCIETY PROCEEDINGS

### Allamakee County Medical Society

The Allamakee Medical Society met December 14 at the court house and the following officers were elected: President, Dr. A. A. Schmidt of Postville; vice-president, Dr. J. H. Thornton of Lansing; secretary-treasurer, Dr. John W. Thornton of Lansing; delegate to State Medical Society, Dr. A. A. Schmidt of Postville. The county nurse also was in attendance at the meeting.

### Bremer County Medical Society

The annual meeting of the Bremer County Medical Society was held at St. Joseph's Hospital, Waverly, December 16, 1921. Officers elected for the year were: President, M. N. Gernsey, Waverly; vice-president, F. R. Sparks, Waverly; secretary-treasurer, F. J. Epeneter, Denver; delegates, F. A. Osincup and L. C. Kern.

Following a prevailing motion at this meeting, the physicians of Waverly will discontinue carrying cards in the local press. A paper on Pyogenic Infection of the Kidney was presented by Dr. L. A. West.

Arrangements are under way for the holding of a children's clinic, also a tuberculosis clinic by the society.

F. J. Epeneter, Sec'y.

### Butler County Medical Society

The Butler County Medical Association held a meeting in Dr. B. Ensley's office the afternoon of



December 14. Dr. J. Nevins of Greene presided. Those in attendance from out of town were: Dr. M. B. Call, Greene; Dr. Groom, Greene; Drs. Day and Smith, Clarksville; Dr. C. F. Roder Aredale, and Dr. Nash, Bristow; Dr. Hobson, Parkersburg. Dr. Reeve of Allison, president of the association, was not present.

#### Calhoun County Medical Society

The Calhoun County Medical Society held its regular annual meeting last Thursday afternoon and evening, December 15, in the American Legion Hall, Pomeroy, Iowa, the society being the guests of Drs. C. I. Taylor and W. W. Weber of Pomeroy. The program follows—Papers: Preoperative Management of Prostatitis, Dr. Albert A. Schultze of Ft. Dodge. A Plea for the Child's Tonsil, Dr. F. E. Kauffman, Lake City.

The following officers were elected for the ensuing year: President, F. E. Kauffman, Lake City; vice-president, T. B. Herrick, Manson; secretary and treasurer, Lena A. Beach, Rockwell City.

The following physicians were present: Albert A. Schultze, Ft. Dodge; C. I. Taylor and W. W. Weber, Pomeroy; T. B. Herrick, Robt. C. Henricks, Prettyman, and Myrtle Griffin, Manson; Lena A. Beach, J. M. Cooper, L. E. Eslick, and P. W. Van Metre, Rockwell City; A. B. Carstensen, Jolley; Thos. H. Van Camp, Somers; D. J. Townsend, J. W. Craig and A. R. Isenberg, Lohrville; M. J. McVay, W. E. McCrary, and F. E. Kauffman, Lake City.

#### Clinton County Medical Association

At the annual meeting of the Clinton County Medical Association held with a dinner December 15 at the Lafayette Hotel, officers were elected as follows: President, Dr. H. C. Martin; vice-president, Dr. R. F. Luce, Low Moor; secretary-treasurer, Dr. M. S. Jordan; delegates to state convention, Dr. J. C. Langan and Dr. H. R. Sugg.

#### Cerro Gordo County Medical Society

The monthly meeting of the Cerro Gordo County Medical Society was held in the Park Hospital at Mason City, on Tuesday evening January 24, at 8:30 p. m. Twenty-two members and one visitor, Dr. Saunders from Northwood, were present.

Dr. Nicholas Stam from the Park Hospital Clinic was elected to membership in the society.

Dr. L. R. Woodward presented a case of Heart Block and discussed the subject of Cardiac Arrhythmia. Further discussion was presented by Dr. J. H. Fraser.

Dr. V. A. Farrell presented a case of Mediastinal Tumor. Discussion of Mediastinal Tumors followed by Dr. G. M. Crabb, who also showed microscopic sections of one of the nodules removed from beneath the skin of this patient, apparently a metastasis from the Mediastinal Tumor.

Light refreshments were served by the members

of the Park Hospital staff and a short social session followed.

Wilbur L. Diven, Sec'y.

#### Decatur County Medical Society

After a special luncheon at Brewers cafe, the Decatur County Medical Society met in the office of Dr. F. A. Bowman on the evening of December 28. The following program was presented: Carbuncles, H. R. Layton of Leon; Report of the State Medical Society, T. W. King of Lamoni.

After these papers had been discussed, there was an informal discussion of the Treatment of Burns.

The following officers were elected for the ensuing year: M. Phelps, Van Wert, president; T. W. King, Lamoni, vice-president; C. H. Mitchell, Leon, secretary-treasurer; F. A. Bowman, Leon, delegate; E. Mitchell, Grand River, alternate.

C. H. Mitchell, Sec'y-Treas.

#### Des Moines County Medical Society

More than sixty physicians from Iowa and Illinois attended the annual banquet of the Des Moines Medical Society, in Hotel Burlington, December 13. Talks were given by some of the most eminent doctors in the country, specialists on the subjects they lectured on. Stereopticon pictures were used to illustrate the technical subjects treated.

A business meeting of the Des Moines County Medical Society preceded the dinner. This was held at 4 o'clock in the afternoon. Dr. Jas. S. Cooper was elected president; Dr. G. J. Pearson, vice-president; Dr. George H. Steinle, secretary and treasurer. After this meeting the lectures by visiting physicians were given. Dr. George H. Steinle, retiring president of the society, welcomed the visitors and the medical program began by a talk given by Dr. Robert Bruce Preble of the Northwestern University at Evanston, Illinois. He spoke on Syphilis of the Aorta. He was followed by Dr. H. H. Kramolosky of St. Louis, who talked on Pyuria, and used slides.

Dr. D. B. Phemister of Chicago used pictures in telling of Some Unusual Forms of Osteomyelitis, or Infection of the Bone.

The closing talk was given by Dr. Eugene R. Van Meter of St. Louis.

The guests at the banquet, which was served at 6:30 o'clock, were the following doctors: Robert B. Preble, Chicago; Eugene R. Van Meter, St. Louis; D. B. Phemister, Chicago; H. H. Kiamolowsky, St. Louis; Wm. S. Reilly, Oquawka, Illinois; W. H. Scott, Dallas City, Illinois; D. L. Newton, Ft. Madison; W. B. Broek, Oakville; E. E. Kirkendall, W. Burlington; A. E. Lawser, Stronghurst, Illinois; C. F. Wahrer, Ft. Madison; R. C. Ditto, Oakville; Thomas Bess, Ft. Madison; A. D. Phillips, Ft. Madison; Clayton J. Hyslop, Galesburg, Illinois; John Bohan, Galesburg, Illinois; T. T. Coe, Keithsburg, Illinois; R. S. Reimers, Ft. Madison; E. A. Stewart, Mt. Pleasant; W. H. Johnston, Muscatine; T. F. Beveridge, Muscatine; Chas. B. Taylor, Ottumwa;

Charles Ricksher, Fairfield; O. A. Geseka, Mt. Pleasant; F. C. Mehler, New London; W. R. Smyth, Morning Sun; T. R. Meliler, New London; C. L. Emerson, Stronghurst, Illinois; W. J. Emerson, Lomax, Illinois; H. L. Marshall, Stronghurst, Illinois; N. B. Hoornbeck, Youngstown, Illinois; H. V. Prescott, Dallas City, Illinois; H. L. Kampen, Monmouth, Illinois; F. W. Noble, Ft. Madison; O. W. McGrew, Columbus Junction; S. J. Lewis, Columbus Junction; Chas. N. Stephens, Gladstone, Illinois; J. S. Gaumer, Fairfield; Ralph Graham, Monmouth, Illinois; Chas. P. Blair, Monmouth, Illinois; B. O. Clanahan, Galesburg, Illinois; J. R. Ebersole, Monmouth, Illinois; H. M. Camp, Monmouth, Illinois; H. H. Moore, Ottumwa; C. E. Cook, New London; L. D. James, Fairfield; W. L. Stewart, Mediapolis; G. W. Cleuke, Rossville, Illinois; G. M. VanAusdell, New London; J. C. Redenglon, Galesburg, Illinois; Louis N. Gate, Galesburg, Illinois; James J. Allen, Kirkwood; M. J. Babcock, Biggsville, Illinois; H. S. Zimmerman, Cameron; W. S. Lessenger, Mt. Pleasant; J. G. Harter, Stronghurst, Illinois; J. M. McClanahan, Kirkwood, Illinois; E. W. Harrison, Winfield; D. Y. Graham, Morning Sun; J. T. McConnoughy, Winfield; H. G. Ebersole, Monmouth, Illinois; J. W. Lavinse, Ft. Madison; C. W. Gardner, Mt. Pleasant; E. J. Lessenger, New London; E. G. Wollenweber, Keokuk.

Burlington guests—C. E. Kaufman, N. McKittrick, G. H. Steinle, Jas. S. Cooper, E. I. Woodbury, H. T. Kriechbaum, B. L. Ditto, J. N. Patterson, E. F. LaForce, D. F. Huston, F. M. Tombaugh, Geo. J. Pearson, A. H. Vorwerk, J. J. Kelly, Fred E. Koch, G. A. Chilgren, A. B. George, G. B. Crow, P. H. Schaefer, Chas. P. Frantz, W. P. Kriechbaum, R. F. Karney, A. J. Thornber, A. C. Moerke, J. W. Greenman, B. F. Campbell, C. W. Bone and Louis Lau.

#### Dubuque County Medical Society

At a largely attended meeting of the Dubuque County Medical Society held December 14 at the Chamber of Commerce the annual election of officers for the ensuing year and other routine business took place.

A feature of the program following routine business was a case report on lung abscess by Drs. Painter, Johnston and McNamara.

Newly elected officers of the society are: Dr. Mary Killeen, president; Dr. W. Cary, first vice-president; Dr. O. E. Haisch, second vice-president; Dr. H. E. Thompson, secretary; Dr. G. C. Fritschel, treasurer; Dr. M. J. Moes, delegate; Dr. H. M. Pahlas, alternate delegate; Dr. Lewis Linehan, Dr. C. E. Lynn and Dr. C. C. Lytle, board of censors; Dr. H. A. Stribley, librarian.

#### Fremont County Medical Society

The annual meeting of the Fremont County Medical Society was held at Hamburg, January 6, at the Hamburg Hospital. A profitable discussion on the subject of Diabetes Mellitus constituted the scien-

tific part of the meeting. Officers elected for the year are: President, Wm. Kerr, Randolph; vice-president, R. C. Danley; secretary-treasurer, A. E. Wanamaker; delegates, E. E. Richards and B. B. Miller, all of Hamburg.

At the next meeting of the society to be held in May at Randolph, the membership will be the guests of President Dr. Kerr, celebrating the twentieth anniversary of Dr. Kerr's practice at Randolph.

A. E. W.

#### Hancock-Winnebag County Medical Society

The annual meeting of the Hancock-Winnebag County Medical Society, was held at Corwith, January 9. At this meeting a most excellent scientific program was carried out, among the papers presented was one by Dr. N. C. Stamm of the Park Hospital Clinic, Mason City, on Kidney Lesions. He gave a very interesting and instructive discussion on the different lesions met with in urological work, and reported cases and showed specimens and pyelographs of both renal tuberculosis, and hypernephroma. The general discussion by the physicians present brought out much of interest.

Dr. C. G. Field of Ft. Dodge gave a lengthy and interesting discussion of the Treatment of Heart Disease and his dissertation was followed by some very spicy discussions, in which the features of his talk were thoroughly brought out, the points dealing with Egglestons Dosage, and auricular fibrillation being presented by the different members present, from their respective viewpoints.

Following the scientific program the physicians present were entertained by R. S. Fillmore, M.D., and C. F. Stull, D.D.S., of Corwith, at an elaborate roast pig banquet; and as entertainers, Drs. Fillmore and Stull were voted 100 per cent efficient.

In the evening the Wertheim Obstetrical Film was exhibited at the local movie theatre, and for nearly two hours the audience saw the different phases of obstetrical work, from normal delivers to Caesarian section, from a breech presentation to perforation of the skull. Thus giving a clinic, for such it was, by a county society, is something of an innovation, but one that was thoroughly enjoyed by all present. It was voted the most instructive feature, and the secretary was instructed to secure other pictures for future meetings. Officers elected for the ensuing year: President, Dr. R. S. Fillmore, Corwith; vice-president, B. F. Denney, Britt; secretary-treasurer, H. F. Thompson, Forest City; delegates, A. L. Judd, Kanawaha, and R. S. Fillmore, Corwith; censors, G. F. Dolmage, A. L. Judd and H. R. Irish.

H. F. Thompson, Sec'y.

#### Henry County Medical Society

The quarterly meeting of the Henry County Medical Society was held in Mt. Pleasant recently and at the invitation of the superintendent of the new hospital the entire day was spent at the institution.

The morning session was held in the nurses living



room on the first floor and was devoted to business. The following officers were elected for the coming year: President, Dr. C. W. Gardner; vice-president, Dr. W. A. Sternberg; secretary-treasurer, Dr. E. A. Stewart.

Three officers of the medical association were also elected as the advisory committee of the county physicians to confer with the trustees of the hospital and the superintendent concerning the management of the institution and other matters of interest to the hospital and the profession.

At the noon hour the members of the medical association, the members of the Henry County Dental Association were invited to lunch as guests of the hospital. The lunch was a sample of the standard meal furnished by the hospital demonstrating just what patients would be fed. The tables were set up in the corridor of the first floor and thirty-five were seated. The three registered nurses and Misses Hobbs and McFerran served the meal.

At two o'clock the society met for the afternoon session in the sun parlor on the second floor and listened to a most profitable program with papers by Dr. Tombaugh of Burlington and Dr. Boyce of Washington and an inspiring address by Dr. Brockman of Ottumwa. On motion the paper of Dr. Boyce will be published in the News.

#### Ida County Medical Association

The annual meeting of the Ida County Medical Association was held in Holstein on Friday evening, December 9, and after an enjoyable dinner the meeting was called to order in the directors' room of the First State Bank. Drs. Parker of Ida Grove and Crane of Holstein read very interesting papers followed by a general discussion and round table talk. The officers for the coming year were elected as follows:

President, Dr. G. C. Moorehead of Ida Grove; vice-president, Dr. E. C. Heilman of Ida Grove; secretary-treasurer, Dr. C. S. Stoakes of Battle Creek; delegate to state convention, Dr. A. M. Bilby of Galva.

#### Jasper County Medical Society

The Jasper County Medical Association met in Prairie City Tuesday, December 13. At that time they elected officers for the coming year. Dr. W. E. Anspach of Colfax was again elected to fill the office of secretary-treasurer. Dr. Harnagel of Des Moines and Dr. Peter Haney of Prairie City gave the principle addresses which were very instructive and were followed by discussions. Dr. Martin of Des Moines and several other visitors were present. Those present report the meeting a fine success.

#### Johnson County Medical Society

New officers of the Johnson County Medical Society were elected at a meeting of the society Wednesday evening, December 21. Dr. J. H. Wolfe was elected president for the coming year. Dr. George

C. Allbright, vice-president, and Dr. L. G. Lowrey was elected secretary and treasurer.

Dr. N. G. Alcock was elected a member of the board of censors, and Dr. H. J. Prentiss was elected delegate to the state convention at Des Moines.

#### Lee County Medical Society

The thirty-seventh annual meeting of the Lee County Medical Society was held at Fort Madison December 29. Dr. O. T. Clark of Keokuk, president of the society, called the meeting to order at 2:30. Minutes of the last meeting which had been held in Keokuk were read and approved. A report was then made by Dr. Newlon, chairman of the committee appointed to consider whether it were advisable to have more numerous meetings. The committee recommended not more meetings at present, but more interest shown in the meetings held.

Officers elected for the year follows: Dr. I. W. Travers of Fort Madison, president; R. M. Lapsley of Keokuk, vice-president; Dr. William Rankin of Keokuk, secretary-treasurer; Dr. F. M. Fuller, delegate to state convention; Dr. Thomas Bess, Fort Madison, alternate.

Dr. Hogle remains censor to 1924, Dr. Newlon to 1923 and Dr. Noble was elected with term expiring 1925.

Dr. H. M. Richter of Chicago, a member of the faculty of the Northwestern College of Medicine was the speaker of the afternoon and his topic was Gastric Lesions. His talk was listened to with much interest. Discussion by Dr. McGee of Burlington, Drs. Fuller, Ryan and Crowe. Dr. Wahrer moved that the courtesy of the floor be extended to Dr. Richter, the motion was carried by a rising vote.

Dr. Ryan of Des Moines, discussed the topic of Medical Treatment of Goitre and Gas Oxygen Anesthesia discussed by Dr. W. C. Kasten of Fort Madison.

The question of increasing county dues to \$5 and making the total for state and county \$10 instead of \$6 will be discussed at the semi-annual meeting in Keokuk May 4, 1922.

Drs. Fuller, Armentrout and Clark were appointed members of the committee to arrange for this meeting.

Doctors attending from Keokuk were Fuller, Rankin, Lapsley, Clark and Charles Wilkins of Dakota.

#### Mahaska County Medical Society

The Mahaska County Medical Society held its annual election of officers at a banquet, including the ladies at the Chamber of Commerce rooms, Oskaloosa, 6:30 p. m., December 21, 1921.

Dr. C. E. Ruth of Des Moines was the guest of honor and gave the society a very interesting stereopticon lecture on Fractures of the Long Bones. A rising vote of thanks was extended to the Doctor, and an invitation to come again.

The superintendents of the nurses training schools, secretary of the Social Service League, and Red



Cross Nurses of the city were also guests of the society. Matters of importance to the betterment of the community were inaugurated. The community young ladies orchestra furnished music during the meal.

The following are the officers for the ensuing year. Dr. Fred J. Jarvis, president; Dr. John A. Ruan, vice-president; Dr. Francis A. Gillett, secretary and treasurer.

F. A. Gillett, Sec'y.

#### Marion County Medical Society

The Marion County Medical Society met in regular forty-ninth annual session at Knoxville, the afternoon of December 15. The following program was presented: A Plea for Closer Cooperation Between the Physician and Dentist, Especially as Regards the Problem of Pre-Natal Care, Dr. W. R. Garretson, Knoxville. Some Facts and Problems in Infant Feeding, Dr. Fred Moore, Des Moines. A Paranoiac and His Book, Dr. J. R. Wright, Knoxville.

The following officers were elected for 1922: President, Dr. F. M. Roberts, Knoxville; vice-president, Dr. Roy Moon, Attica; secretary-treasurer, Dr. C. S. Cornell, Knoxville. Delegate, Dr. E. G. McClure, Bussey; alternate, Dr. J. R. Wright, Knoxville; censor, Dr. H. E. White, Knoxville.

The attendance was excellent, thirty members of the medical and dental professions from Marion and neighboring counties profiting by one of the best scientific programs the society has ever had. The next meeting will be held in Knoxville in April.

C. S. Cornell, Sec'y-Treas.

#### Marshall County Medical Society

Dr. R. E. Keyser was elected president and Dr. F. L. Wahrer secretary and treasurer at the annual meeting of the Marshall County Medical Society. Dr. Otis Wolfe was elected vice-president and Dr. M. U. Cheshire, delegate to the State Society Convention and Dr. Theodore Engle of State Center, alternate. The censors elected were Dr. R. R. Hansen, Marshalltown and Dr. A. D. Wood, State Center, and Dr. H. E. Noble, Clemons.

Dr. Woods read a paper on Cervical Rib.

#### Muscatine County Medical Society

The annual meeting of the Muscatine County Medical Society was held December 21, 1921, parlor A, Muscatine Hotel.

Dr. Paul A. White of Davenport, Iowa, presented a paper and slides on Uses of Radium, which was very interesting, instructive and enjoyed by all present.

Officers elected for 1922 were: President, Dr. W. H. Johnston; vice-president, Dr. W. W. Daut; secretary-treasurer, Dr. W. W. Potter; delegate, Dr. E. K. Tyler. After the meeting a luncheon was enjoyed at the Geo. Washington cafe.

#### Scott County Medical Society

A regular meeting of the Scott County Medical Society was held Tuesday evening, December 6, 1921, in the Chamber of Commerce, Davenport, Iowa. Dinner served at 6:30 P. M. Meeting called to order at 8:00 P. M. sharp. Election of officers by ballot, for the year 1922.

Program—General discussion on ways and means to create more interest among the members of the society for the benefit of the society.

#### SECRETARY'S YEARLY REPORT FOR THE YEAR 1921

Ten regular meetings held during the year.

One special meeting called.

Free Ambulance Service—Through the efforts of President Dr. E. O. Ficke and Mayor C. L. Barewald, physicians will receive free ambulance services for their patients in the city limits of Davenport. It is hoped that the members of the society will insist on this free service of the ambulance to their patients in the future.

Parking Privileges—Through the efforts of President Dr. E. O. Ficke and Dr. Wm. L. Allen, a petition was circulated and presented to Mayor C. L. Barewald to extend parking privileges to physicians during the year. Mayor Barewald granted the parking privileges and requested all physicians wishing to take advantage of the parking privileges, to place a caduceas on their cars and secure a card from the mayor. This would permit physicians to park their cars in the down town parking zones for two hours in the mornings and three hours in the afternoons. It is hoped that the society will be granted the same privileges in the future.

Closing Wednesday Afternoons—From July first to September first, during the year 1921, was voted on by the society. Cards were printed and placed in each physician's office to advise their patients of the action taken by the society.

Total members in the society beginning Jan, 1921	76
New members accepted into the society during the year.....	7
Applicants rejected during the year.....	2
Members leaving the city during the year.....	1
Deceased members during the year.....	1
Honorary members.....	3
Total members December 31, 1921.....	84

Robert E. Jameson, Sec'y.

#### Taylor County Medical Society

The annual meeting of the Taylor County Medical Society was held Tuesday afternoon at Dr. Sollis office. After transacting the usual business the election of officers took place as follows: Dr. Miller of Blockton, president; Dr. King of Blockton, secretary; Dr. Sollis of Bedford, delegate to the state convention.

Dr. Harry S. Conrad, a surgeon of St. Joseph, spoke on Surgery of the Breast. His talk was both instructive and interesting.

Dr. H. C. Paul of St. Joseph spoke on Genitourin-

ary. This subject every doctor present took a deep interest in and no doubt will profit by it in their practice.

Next on the program was Dr. F. E. Sampson of Creston, a man who is well known over the entire state. His subject was the building of a community hospital in Bedford.

Present at this meeting: Dr. J. W. Beauchamp, Dr. Maloy, Dr. Sollis of Bedford; Dr. D. W. Reed of Clearfield, Dr. A. E. King of Blockton and Dr. Miller of Blockton.

#### Van Buren County Medical Society

The Van Buren County Medical Society held its regular meeting at the rest room in Keosauqua, Thursday, December 8, and it was regarded as one of the most interesting and instructive meetings of the society. The main feature of the session was an address by Dr. W. B. LaForce of Ottumwa, his theme being medical and other conditions in China. The speaker had spent four years in China, hence was well equipped for ably and authoritatively presenting his interesting subject. Quite a crowd of Keosauqua citizens enjoyed the talk.

It was agreed that a meeting should be held later in honor of Dr. G. R. Neff of Farmington and Dr. T. G. McClure of Douds, who have each completed a service of fifty years of medical practice, nearly all of which has been in this county.

The following officers were elected: President, Dr. McClure of Douds; vice-president, Dr. Neff of Farmington; secretary-treasurer, Dr. Russell of Keosauqua; delegate to state meeting, Dr. Cresap of Bonaparte; alternate, Dr. Mathews of Mt. Sterling.

#### Webster County Medical Society

Dr. A. E. Acher was elected president of the Webster County Medical Association at the annual meeting in the Commercial Club rooms, Tuesday night, December 6. Other officers elected for the coming year were Dr. George Gibson, vice-president, and Dr. T. J. Dorsey, secretary and treasurer.

Dr. W. F. Carver and Dr. A. H. McCreight were elected delegates to the State Medical Association which meets in Des Moines in the spring.

Following the election of officers Dr. L. M. Martin gave a paper on the subject of Accessory Sinus Infections.

#### Woodbury County Medical Society

At the annual meeting of the Woodbury County Medical Society held December 28 at Sioux City, the following officers were elected: President, Dr. W. J. S. Cremin; vice-president, Roy F. Bellaire, secretary-treasurer, Victor Brown. William Jepson, of Sioux City, addressed the members on the subject of The Moral Obligations We Owe the Members of Our Profession. A general discussion of the subject concluded the program.

#### Boone Medical Society

The Boone Medical Society held its annual meeting Wednesday evening, December 28 in Dr. Bassett's office at Boone and after the regular routine had been disposed of the following were elected for the ensuing year: L. A. Bassett, president; J. O. Ganoe, Ogden, vice-president; C. A. Nolan, secretary; A. B. Deering, delegate to state convention with L. A. Bassett, alternate. M. A. Healy, censor.

#### Upper Des Moines Medical Society

Fifty physicians and surgeons of Clay, Dickinson, Palo Alto and Emmet counties gathered in Spencer Thursday, December 1 at a meeting of the Upper Des Moines Medical Society.

The visiting doctors and representatives of the local civic organizations were guests of the Clay County Medical Society at a banquet at the Hotel Tangney Thursday evening, at which talks were made on medical and public health topics. A score of ladies were among the guests.

The Upper Des Moines Medical Society elected the following officers: President, Dr. E. W. Sproule, Peterson; vice-president, Dr. C. C. Collester, Spencer; secretary, Dr. H. L. Brereton, Emmetsburg.

Those who attended the dinner included the following doctors:

Dickinson—M. P. Bachman, Lake Park; W. E. Bullock, Lake Park; C. M. Coldren, Milford; C. O. Epley, Spirit Lake; Q. C. Fuller, Milford; P. G. Grimm, Spirit Lake; A. H. Schooley, Terril; C. S. Shultz, Spirit, Lake; A. F. Smith, Milford; F. J. Smith, Milford.

Clay—J. H. Bruce, Dickens; C. C. Collester, Spencer; DeGarzon, Everly; H. O. Green, Spencer; T. H. Johnston, Spencer; D. S. Jones, Royal; E. R. Leonard, Everly; E. E. Munger, Spencer; E. A. Rust, Webb; J. M. Sokol, Spencer; E. W. Sproule, Peterson; Porter-Wertz, Spencer; J. B. Wertz, Spencer; C. C. Winter, Greenville.

Emmet—E. W. Bachman, Estherville; J. T. Beck, Gruver; C. E. Birney, Estherville; W. E. Bradley, Estherville; R. C. Coleman, Estherville; V. H. Gardner, Estherville; J. B. Knipe, Armstrong; H. D. Mereness, Dolliver; M. T. Morton, Estherville; A. A. Rhonalt, Ringsted; Alice C. Stinson, Estherville; G. H. West, Armstrong; M. E. Wilson, Estherville.

Palo Alto—G. Baldwin, Ruthven; E. D. Beatty, Mallard; H. L. Brereton, Emmetsburg; F. X. Cretzmeyer, Emmetsburg; H. F. Givens, West Bend; J. Hennessy, Emmetsburg; P. J. Hession, Graettinger; H. M. Huston, Ruthven; G. H. Keeney, Mallard; C. W. Morrison, Ayrshire; T. T. Naee, Graettinger; Paul Nelson, Ayrshire; H. A. Powers, Emmetsburg; H. R. Powers, Emmetsburg; G. J. Schuell, West Bend; J. C. Walker, Emmetsburg; J. W. Woodbridge, Ayrshire.

I wish to make mention of the annual birthday celebration of Dr. W. A. Rohlf January 5, 1922 at Waverly. An interesting clinic was held and lec-



tures and discussions at the hospital. Among the doctors present were Dr. Granville Ryan of Des Moines, Dr. Bookbinder of Chicago, doctors from Iowa City, Charles City, Waterloo, Algona, and all the surrounding towns. About sixty doctors attended and more would have attended but for the bad roads.

Dr. Rohlf proved as usual an ideal host. It is interesting to note that no similar affair of its kind exists in the State of Iowa, that is on so large a scale. At the close of the banquet the lights were extinguished and two ladies appeared with two large birthday cakes, lighted with fifty-five small candles on each. This proved almost too much for the Doctor but he composed himself and gave us a touching address. Those who have attended during the past twelve years say this was the best ever.

'Fraternally yours,

"One Who Attended."

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### LECTURES IN OPHTHALMOLOGY

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The ophthalmic section of the St. Louis Medical Society announces a course of lectures in ophthalmology, to be given in St. Louis by Professor Ernst Fuchs of Vienna during the month of February, 1922.

Further information regarding this course may be obtained by writing to the Fuchs Lecture Committee, St. Louis Medical Society, 3525 Pine street, St. Louis, Missouri.

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### HOSPITAL NOTES

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The Reverend Mother Superior Mary Philomene, head of Mercy Hospital, Des Moines, died suddenly at 3:45 A. M. Wednesday, December 28, from a hemorrhage of the lungs, and passed on to her reward, after more than forty years of faithful service.

The sister of mercy leaves as a monument to her memory one of the largest hospitals in the state—Mercy Hospital.

The hospital was her dream, which bit by bit was realized until finally she had completed her work and there remained the present hospital of 250-bed capacity.

When a young girl in Davenport, Iowa, where she was born sixty years ago, Miss Sara Keating made the decision that she would devote her life to helping others.

She entered a convent and forty years ago took the veil. Thirteen years she served faithfully and well at the Mercy Hospital at Davenport, until she had become the assistant mother superior.

Her good qualities and executive and administrative ability were recognized by the bishop of the diocese and Sister Mary Philomene was sent to Des Moines, to found the Mercy Hospital, which was to be a branch of the Davenport house.

The first start was made in the place now known as Hoyt Sherman Place. Twenty beds were installed and Mother Superior Sister Philomene began her work.

Within a short time this structure became too small and the mother superior had visions of a larger building, in which not one score, but several score of sick could be cared for.

A campaign was started and the east wing of the present structure was the result.

This in time was outgrown and the central portion of the building was added.

So faithfully did Sister Philomene work, that when a few years ago the hospital again became too small for the work, the west wing was subscribed for in a short time, and became a reality, towering high with the other and older wings.

Six years ago, with her dreams of a large hospital realized, Sister Philomene was rewarded by Bishop Dowling, when he made the Mercy Hospital an independent home and she was named as the reverend mother superior, with full charge.

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Dr. and Mrs. J. Fred Clarke entertained the new class of nurses of the Jefferson County Hospital with a Christmas dinner at their home. Christmas greenery, candles and attractive favors gave a festive air to the occasion. The guests included the Misses Barbara Noir, Helen Frazier, Mary Linder, Gladys Fulton, Fay James and Mildred James, members of the class.

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Sigourney now has a hospital. For a number of weeks the process of overhauling and practically rebuilding the interior of the Merchants Hotel building and fitting it for the purpose of a good up-to-date hospital has been going on.

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### Opening of New Henry County Hospital

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Between five and six thousand people, men, women and children passed through the Henry County Hospital during the two public reception days, Saturday and Sunday, December 10 and 11. Clear warm days and good roads brought people here from all over the first district. Scores of physicians and nurses came in cars to look over the new hospital, which has been declared by the profession to be the most perfectly appointed, most modern in equipment and economical in arrangement and beautiful in furnishings of any hospital, large or small, in the Middle West.

On Friday, December 9, the doctors of the county made a thorough and most exhaustive examination of the institution and later while in session discussed the various features of the project with the utmost freedom. The general sentiment of the physicians seemed to be that the trustees had erected and furnished a building that was a creditable, efficient, practical and all that could be expected of a small hospital. The general arrangements, the design, the equipment and the furnishings were approved as correct. Visiting surgeons openly stated that in their opinion the Henry County Hospital was the best constructed, the best designed, equipped and furnished of any hospital in the state irrespective of size of hospital or size of community and that



the taxpayers had an institution of which they could in every way be proud and satisfied. Dr. Brockman of Ottumwa was especially pleased with the hospital and Dr. Tombaugh of Burlington was equally commendatory of the building.

One of the most successful surgical clinics ever held in Waverly occurred Saturday, November 26 at Mercy Hospital at Waverly, when practically all the members of the Iowa Clinical Surgeons' Association met in this city for their regular clinic. These surgeons, many of whom are noted men in the profession, came from all parts of the state to attend the Waverly meeting.

On this occasion all the actual surgical work was done by Dr. W. A. Rohlf of this city, but he was assisted by several of the other local men in giving anesthetics, etc.

During the session of the clinic, which lasted from 8:00 o'clock A. M. until noon, ten major operations and one minor operation were performed.

At noon the party took luncheon at the Fortner Hotel and after spending the afternoon in our city, they journeyed by auto to Waterloo, where at 7:00 o'clock they enjoyed a lobster dinner at the Hotel Russell-Lamson.

#### Mercy Hospital, Waverly

A pleasant Christmas party was given by the Sisters at Mercy Hospital, Saturday evening, December 24, 1921, for the nurses and staff.

#### Gift to Hospital

The Eldora Hospital received from J. E. Booth, \$10,000 in memory of his wife, and the name of the hospital will be changed to the Eldora Booth Memorial Hospital.

### PERSONAL MENTION

Dr. Julia Hill of the Grinnell Clinic, leaves for Chicago where she will take a three months' post-graduate course in pathology under the direction of Drs. H. Gideon Wells and E. R. Lecount. During her absence her work will be carried on by Miss Jeanette Lowrey, who has recently completed a course in laboratory training under Dr. Glomset of Des Moines.

Robert Burns Armstrong, at one time connected with newspapers in Des Moines and afterwards with the Record-Herald of Chicago, has been elected president of the National Press Club at Washington, succeeding and defeating George Authier, another Iowan. Mr. Armstrong is a son of Dr. Robert B. Armstrong, a leading physician of this county, living at Polk City. Robert became private secretary to Secretary Leslie M. Shaw, when the latter was at the head of the treasury department, and was afterwards appointed by President Roosevelt assistant secretary of the treasury. Of late he has been in business at Los Angeles, California, and now represents the Los Angeles Times at Washington city.

Dr. G. H. Sumner, secretary of the state board of health for the past twelve years, was removed from office and Rodney P. Fagan of Des Moines, who was division surgeon of the 34th Division A. E. F., was named as his successor. The state appointing board consists of the governor, secretary of state and auditor of state. Their official statement in dismissing Dr. Sumner reads as follows: "Whereas, in the judgment of the appointing board of the state board of health, the health interests in the state requires and demand that change be made in the secretary and executive office of the state board of health and that in the judgment of the appointing board, good and sufficient cause exists for such action." "Therefore be it Resolved, that effective December 31, 1921, Doctor Guilford H. Sumner, present secretary and executive officer of the said board, be relieved of the duties of said position and that Dr. Rodney P. Fagan, late lieutenant colonel of the medical corps of the Thirty-fourth Division overseas in the World War, be appointed as his successor."

Dr. Hugh Jenkins who has been in active practice for over forty years at Preston, accompanied by his family, is spending the winter months at Tucson, Arizona, for a much needed period of rest and recuperation.

Dr. Merrill M. Myers of Des Moines has just installed in his office a late type Hindle electro-cardiograph. This is the second electro-cardiograph to be installed in Iowa.

Dr. and Mrs. A. S. Harper, Dr. and Mrs. G. G. Ward, Dr. and Mrs. J. B. O'Connor and Dr. and Mrs. D. L. Patterson of Oelwein, were hosts and hostesses to the Doctors and Dentists' Club Monday evening, November 28, at the home of the latter on Second avenue East. A delicious six o'clock dinner was enjoyed from a table centered with chrysanthemums. Music and dancing formed the diversion of the evening until a late hour. Dr. Jeanette Throckmorton of Des Moines who had lectured to the Parent-Teachers Association in the afternoon, was an honored guest.

Relatives and friends in this city have received word of the birth of a daughter to Dr. and Mrs. Joseph P. Cochran in far away Tabriz, Persia, where Dr. Cochran is a medical missionary. The mother will be better known to Storm Lake as Miss Bernice Gregg. The little Persian has been named Dorothy Ann and she was born on Sunday, November 28, the cable having been received Monday.—Storm Lake Pilot.

Dr. Dean Hill Osborne of Kalona, has been appointed to the post of chief surgeon in a new clinic at Albert Lea, Minnesota. He is a 1910 graduate of the S. U. I. College of Medicine; while here he acted as assistant football coach. During the war Dr. Osborne served over seas with the medical corps of the 324th Field Artillery.

Dr. Tilden, college physician at Ames, during the last fourteen years, will succeed Dr. Osborn, as a Kalona practitioner.

The annual meeting of the Physicians' Club of

Keokuk will be held at the Y. W. C. A. Officers will be elected at this meeting. Dr. Tom B. Throckmorton, secretary of the Iowa State Medical Society, will be present as the club's guest. He will read a paper on Making of a Neurological Diagnosis. All physicians of the neighborhood will be welcome to attend this meeting.

Dr. Orrie Ghrist of Ames, who with his bride of a few days, left here a few months ago for Vienna, Austria, where he is taking an advanced course in medicine in the university there, has been honored by the selection as vice-president of the American Medical Association there.

Joseph W. Rountree of Waterloo has started action to recover \$6,000 from an insurance company to cover the loss of radium lost while a patient was being treated at a local hospital.

Pamphlets and official notices were sent out by the Northwestern naming the physicians and their territory for the coming year. The notifications are that Dr. A. B. Deering and Dr. A. B. Fagerstrom are to be the company physicians for this district. The territory to which Dr. Deering is liable to call is given as between Boone and Glidden, while Dr. Fagerstrom will have the territory between Boone and Ames. The offices are the same the men have held with the exception that the territory of Dr. Deering is enlarged.

Dr. J. F. Auner of Des Moines was in attendance upon the annual clinic of the Chicago Dermatological Society held in Chicago January 18 and 19.

### MARRIAGES

Dr. Edwin G. Bannick of Wilton Junction and Miss Vesta Meredith of Atlantic were married September 21, 1921.

Mr. and Mrs. J. C. Ashton, 1051 West Twenty-third street, announce the marriage of their daughter, Mary, to Dr. Warren E. McCrary of Lake City, Iowa, which took place November 28 in Clarion, Iowa.

### OBITUARY

On Friday evening at 10:30 o'clock, December 16, Dr. Gilbert Baldwin of Ruthven died. His death came as a shock to the community in which he lived and to the large circle of acquaintances both in the medical profession and without.

Dr. Baldwin had had a mitral regurgitation for some years. Compensation had been complete. At about 6 P. M. of the day of his death he had cranked his automobile engine which was slow in starting. Soon after walking to supper he felt sick and called for his partner, Dr. H. M. Huston. It is thought that Dr. Baldwin died of an acute dilatation of the heart.

Dr. Baldwin was an active man and never spared himself in the interest of his large group of patients. He was one of the best known men of Palo Alto county. He died in his fortieth year of practice at

Ruthven. He was public spirited to a large degree and entered into the activities of his community with a zeal which endeared him to all those with whom he came in contact. Though maintaining a general practice of medicine and surgery, he was alive to the advances in his profession. He was an ardent supporter of the local medical societies and of the societies of larger extent.

Gilbert Baldwin was born in Minnesota on October 23, 1859 and in consequence was just past his sixty-second birthday. After growing to manhood he attended the Washington University at St. Louis, graduating from the medical department in 1882 after which he started the practice of medicine in Ruthven. For two years he was in partnership with Dr. Livingston and for the last thirty years has been a partner of Dr. Huston.

In 1890 he united in marriage with Miss Carrie Larson and to this union one son was born, Perry G.

In 1904 he was united in marriage to Miss Bessie Larson and they have continued to make their home in Ruthven.

The funeral was held Monday, December 19. About thirty physicians from the surrounding counties attended in a body.

### MILWAUKEE COUNTY MEDICAL SOCIETY, MILWAUKEE, CONTRIBUTES TO TRI- STATE FOUNDATION FUND

The executive committee of the Milwaukee County Medical Society, courtesy of Drs. Edwin Henes, Jr., E. A. Fletscher, W. T. McNaughton, J. Gurney Taylor, J. J. Seelman and J. L. Yates report a donation of \$317.25 from the Milwaukee County body to the Foundation Fund of the Tri-State District Medical Society of Illinois, Iowa and Wisconsin. The amount was voluntarily contributed to the endowment fund for the "support of the splendid purpose for which the Tri-State District Medical Association was organized."

The Milwaukee County Medical Society is the first official body in the three states to contribute to the fund although a large number of Wisconsin physicians are individual subscribers.

H. G. Langworthy, Dubuque,  
Chrm. Foundation Fund.

### BOOK REVIEWS

#### THE SPLEEN AND SOME OF ITS DISEASES

By Sir Berkley Moynihan of Leeds, England, 129 Pages with 13 Full Page Diagrams. W. B. Saunders Company, 1921. Price, Cloth, \$5.00 Net.

The spleen is coming to be recognized in its relation to other organs aside from being an important organ on its own account. When operations on abdominal organs came to be recognized as a legitimate undertaking, the spleen was removed for reasons relating entirely to itself, as serious injuries, twisted



pedicle or incised for abscesses or cysts, and removed for enlargements. In later years for diagnosis of the liver, pernicious anemia and hemolytic jaundice; therefore, the spleen has become an organ of greatly increased interest.

Surgeons and pathologists are turning to the spleen for a solution of some of the mysteries connected with diseases of heretofore unknown origin, and believed to be incurable, chiefly relating to the blood. Communications have come from certain clinics which seem to show that an inter-relation exists between the liver and spleen not hitherto suspected. Sir Berkley Moynihan of wide surgical vision in his Bradshaw lectures before the Royal College of Surgeons of England has brought to the attention of the profession the accumulated facts and theories of the liver-spleen system. In the first chapter an anatomical outline is given. In the second chapter, surgery of the spleen. There are presented some of the early operations for the removal of the spleen in 1549. In 1898 records were collected of 274 splenectomies with 170 recoveries. At the Mayo Clinic 243 splenectomies have been made for disease with twenty-six hospital deaths. These are divided into five groups: Splenectomies for Splenic Anemia; for Pernicious Anemia; for Myelogenous Leukemia; for Hemolytic Icterus; for Septic Splenomegalias. Following is a discussion of the Function of the Spleen; the Pathology of Splenic Disease; which brings the author to the main question; the Clinical and Associated Phenomena of Splenic Disease, and Percy statistics and observations, with such conclusions as the philosophic mind of Sir Berkley may furnish.

In Chapter 13 is a discussion on the Liver in Some of Its Relation to the Spleen. This is the concluding chapter of this important contribution.

#### PRINCIPLES OF HYGIENE

The new (7) Edition. A Practical Manual for Students, Physicians, and Health Officers. By D. H. Bergey, M.D., Dr. P. H., Assistant Professor of Hygiene and Bacteriology, University of Pennsylvania. Seventh Edition, Thoroughly Revised. Octavo of 556 Pages, Illustrated. Philadelphia and London. W. B. Saunders Company, 1921. Cloth, \$5.50 Net.

In this latest edition of a work first published in 1901, Dr. Bergey has endeavored by rewriting some and revising other parts, to bring this presentation of the subject up to date.

He considers that hygiene treats not only of those laws by which health is preserved, but also those which tend to raise the standard of health generally. This would necessarily give to the subject a wide field for all factors must therefore be considered which have any tendency to alter living conditions either favorably or unfavorably, in all sorts of environments and under all sorts of climatic conditions. It must consider racial and social differences,

the changing situations in peace and war, and distinguish between these factors as applied on the one hand to the individual, and on the other to the community.

These things the author treats of in a thorough, comprehensive manner, and not only as regards hygiene, strictly defined as the knowledge of how health is affected, but also deals with sanitation, the art of producing such conditions as are conducive to continued or better hygiene.

In the introduction, the causes of disease are considered in a general way, and a short outline is given of the beginnings of modern hygiene through the observations of men interested in medicine, science, and philanthropy.

An idea of the thoroughness with which the author has covered his subject may be gained from the headings of his chapters: Air; Ventilation; Heating; Water and Water Supply; Sewage; Garbage; Food and Dieting; Exercise; Clothing; Personal Hygiene; Industrial, School, Military and Naval Hygiene; Soil; Habitations; Vital Causes of Disease; Disinfection; Quarantine; Vital Statistics.

An appendix gives various rules for conversion of metric into other units, of measurement.

Our increase of knowledge along lines of hygiene and sanitation and the increased interest of the public in these matters, from which has developed a demand for public servants better trained to serve as public health officers, has been met in part by the offering of courses in some schools leading to the degree of doctor of public health. However, an increase in general knowledge of hygiene such as may be obtained from works like that of Dr. Bergey, will be of aid in providing an intelligent public for the health officer to serve, to their mutual advantage.—Major H. R. Reynolds, U. S. Public Health Service.

#### DISEASE OF THE SKIN

By Richard L. Sutton, M.D., Professor of Diseases of the Skin; University of Kansas School of Medicine; Former Chairman of the Dermatological Section of the American Medical Association; Assistant Surgeon, United States Navy, Retired; Dermatologist of the Christian Church Hospital. With 969 Illustrations, and Eleven Colored Plates. Fourth Edition, Revised and Enlarged. C. V. Mosby Company, St. Louis, 1921.

This book of 1132 pages with its numerous illustrations is of very great value to the medical profession. Probably no subject offers so many difficulties to the general practitioner as diseases of the skin, yet the patient brings his ailment in full sight, and expects a definite diagnosis and some form of successful treatment. It is not enough that the physician gives a hasty glance to the diseased surface, names some disease he happens to remember, prepares some medicine, which probably has no effect, and directs the patient to return.

(Continued on Adv. Page xvi)



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## BOOK REVIEWS

(Continued from Page 60)

Every case requires careful study and inquiry into habits of living, elimination, excretions and all questions that may lead directly or indirectly to the skin lesion. In this book may be found lines of inquiry which draw attention to the pathology of the disease which when worked out will form a basis for a more or less successful treatment. In the proper place, will be found formulas that have been found efficient when properly employed. It is a book for study, not merely for reference. A successful treatment of an obstinate case of skin disease will contribute more to the physician's reputation than any number of appendix operations. Dr. Sutton has been fortunate in presenting a difficult subject in an attractive manner.

## SURGICAL ANATOMY

By William Francis Campbell, M.D., Surgeon-in-Chief at Trinity Hospital, Brooklyn, N. Y. Sometime Professor of Anatomy and Professor of Surgery, Island College Hospital. Third Edition Revised, 681 Pages with 325 Original Illustrations. W. B. Saunders Company 1921. Price, Cloth \$6.00 Net.

The author in the preface modestly states that "Only the manner of their presentation and the attempt to estimate their clinical values can be credited to the author." This of course relates to the anatomic facts set forth by writers on surgical anatomy at various times; but the presentation is the essential facts that determines the value of the book. Dry anatomic facts are difficult to utilize and often turns the student away discouraged.

An examination of this book will show that the text and illustrations are so arranged as to maintain the interest of the student and surgeon to the end. It would be quite impossible to consider the contents in detail and we are limited to an expression of an appreciation of the value of the claim modestly stated.

## DISEASES OF THE SKIN

By Henry W. Stelwagon, M.D., Ninth Edition, Revised with the Assistance of Henry K. Gaskill, M.D., Attending Dermatologist to the Philadelphia General Hospital, 1313 Pages with 401 Text Illustrations and Half Tone Plates. W. B. Saunders Company, 1921. Cloth, \$10.00.

The ninth edition of a well known book on skin diseases is before us. We welcome it cordially. We realize the need the practitioner of general medicine has of these fine works on skin diseases. The various popular cults that have come to afflict us in recent years, are not active competitors for the real and difficult subjects in medicine, and if we have

a superiority over them it may be shown in the real things in medicine. The sufferers from skin diseases have something real to show and are possessed of a real and earnest desire for relief.

Skin diseases are not cured by the use of lotions and ointments; the difficulty lies deeper; it means a scientific inquiry into many things, not merely a reference to standard books for direct remedies, which are good for certain things that appear on the surface, but a real and detailed study, directed by the recorded knowledge and experience of experts.

The position held by Stelwagon on skin diseases for many years should impel the student of medicine who has no controversy with strange medical notions, to keep this book in easy reach for study. He must realize that the public have no real interest in medicinal controversy, only in securing relief from distressing and troublesome afflictions, by an inquiry into the causes of their sufferings and a measure of relief. It is not difficult to explain the reason for delay in the cure, if the patient is convinced that the physician is in earnest, seeking the remedy whether medical or otherwise, he will cooperate.

## A TREATISE ON CATARACT

Donald T. Atkinson, M.D., San Antonio, Texas; 150 Pages, 29 Plates; New York City. The Vail-Ballou Company.

This well written book is printed in large type and contains good illustrations, many of which are reproductions of photographs. These photographs unfortunately do not show the finer details, the diagrammatic drawings show them better.

If we were to offer adverse criticism it would be that the subjects written about are discussed too briefly. For example the description of the anatomy of the lens and capsul is very brief. A short paragraph devoted to the embryology mentions that the lens is derived from cuticular epiblast, but does not mention the origin of the lens capsul. There is no statement of histology or microscopic pathology.

There are three pages devoted to the responsibility of the general practitioner in the diagnosis of senile cataract. The author believes that the general practitioner should be able to diagnose and to advise when the operation should take place.

A long paragraph describes the fixation forceps and the position in which it should be held, but it does not state where in relation to the limbus the forceps should be applied. The illustration show 't applied away from the limbus, this, according to many leading authorities, does not give good fixation.

The book contains no new material, but it brings together and states briefly the combined experience of the profession with a few added points at which the author has arrived by study and long observation

E. P. Weih, M.D.

(Continued on Adv. Page xxxiii)



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Marshall	T. S. Walker, Riceville	F. L. Wahrer, Marshalltown
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Mitchell	Geo. A. Jenkins, Albia	Guy A. Lott, Osage
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Page	George Mattison, Akron	M. O. Brush, Shenandoah
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Plymouth	A. P. Stoner, Des Moines	M. J. Joynt, Le Mars
Pocahontas	M. E. O'Keefe, Council Bluffs	G. A. Everson, Plover
Polk	E. J. Ringena, Brooklyn	H. E. Ransom, Des Moines
Pottawattamie	Wm. Horne, Mount Ayr	A. A. Robertson, Council Bluffs
Poweshiek	F. H. McCray, Schaller	Edwin E. Harris, Grinnell
Ringgold	B. H. Schmidt, Davenport	Samuel Bailey, Mount Ayr
Sac	V. I. Myers, Defiance	W. J. Findley, Sac City
Scott	T. E. McCaughan, Ireton	W. E. Foley, Davenport
Shelby	Earl B. Bush, Ames	Jay D. Dunshee, Harlan
Sioux	J. A. Pinkerton, Traer	A. F. H. deLepinasse, Orange City
Story	B. H. Miller, Blockton	B. G. Dyer, Ames
Tama	J. G. Macrae, Creston	A. A. Crabbe, Traer
Taylor	C. N. Stevenson, Milton	A. E. King, Blockton
Union	W. E. Anthony, Ottumwa	H. A. Childs, Creston
Van Buren	W. E. Sperow, Carlisle	Chas. R. Russell, Keosauqua
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Webster	W. J. S. Cremin, Sioux City	Thos. J. Dorsey, Fort Dodge
Winnebuck	S. S. Westley, Manley	Milton D. Jewell, Decorah
Woodbury	H. P. Walker, Clarion	R. M. Waters, Acting Secretary, Sioux City
Worth		E. H. Dwelle, Northwood
Wright		E. D. Tompkins, Clarion



## BOOK REVIEWS

(Continued from Adv. Page xvi)

## THE MEDICAL CLINICS OF NORTH AMERICA

Chicago Number, July, 1921. W. B. Saunders Company. Price, \$12.00 Bi-monthly.

A considerable variety of cases are discussed in this number of which we will mention a few.

Dr. Charles S. Williamson presents four patients who represent an important subject; pericarditis with effusion, a condition which is overlooked in a hurried examination but which should present no great difficulties in diagnosis. An important subject is presented by Dr. Isaac Abt, a condition which may seriously influence the future of the new born infant, meningeal hemorrhage; this condition sometimes occurs in difficult, delayed or instrumental delivery.

## NEW AND NON-OFFICIAL REMEDIES

During December the following articles have been accepted by the Council on Pharmacy and

Chemistry for inclusion in New and Non-official Remedies:

The Abbott Laboratories:

Neocinchophen—Abbott.

Powers-Weightman-Rosengarten Co.:

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Schimmel and Co.:

Oil of Cypress—Schimmel and Co.

E. R. Squibb and Sons:

Liquid Petrolatum—Squibb.

Food Allergens—Squibb.

Pollen Protein Allergens—Squibb.

Animal Epidermal Extract Allergens—Squibb.

Bacterial Allergens—Squibb.

Winthrop Chemical Co.:

Chaulmestrol.

Non-proprietary Article:

Chaulmoogra Oil.

Change of Agency: Cresatin—The Council has directed that the description of Cresatin (New and Non-official Remedies, 1921, p. 94) be revised to show that the name has been changed to Cresatin—Dr. N. Sulzberger and that it is manufactured by the Intravenous Products Company of America, Inc.

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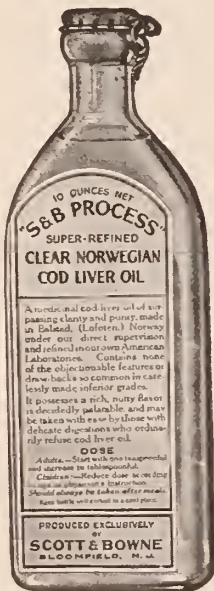
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## A CLINICAL STUDY OF FIFTY CASES OF PNEUMOTHORAX\*

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In 1803, Itard coined the term pneumothorax to describe the condition of air free within the pleural space. He was able to demonstrate its presence in five necropsies of patients dying of tuberculosis, and he associated the presence of air as a complication of the disease.

It is now the centennial of Laennec's invention of the stethoscope and his discovery of mediate auscultation. To him belongs the credit of first recognizing pneumothorax during life. His description of physical signs, and his classification according to etiology were so complete that little has been added thereto. He also first interpreted the succussion splash to be due to the combined presence of air and fluid in the pleural space. This diagnostic sign was described in the complete works of Hippocrates of the fifth century, B. C., known as "Hippocratic succussion." The authorship is questionable, and it seems certain that Hippocrates and his contemporaries misunderstood the significance of the sign, being misled because of the universal belief that air was normally present in the pleural cavity.

During the early part of the nineteenth century, the value of Auenbrugger's discovery of percussion, and of Laennec's auscultation had been properly evaluated, and in those years a fineness of description and an accuracy of examination developed that we would do well to imitate. To the great clinicians of that day accurate histories and painstaking examinations were necessarily of primary importance. Few laboratory tests could contest their place in diagnosis and they had not the x-ray to tempt them from clear thinking and accurate work.

Pneumothorax has acquired a new interest since Forlanini, in 1888, and Murphy independ-

ently, in 1898, utilized artificial pneumothorax in the treatment of certain types of tuberculosis. The method was coolly received for a few years, but has recently enjoyed a vigorous revival.

Again during the Great World War it was found that not all of the physiology of pneumothorax was understood.

Many lives were sacrificed before the problem of high mortality following early operation in empyema was solved.

Even today with regard to the treatment of the condition and its complications, opinions are far from uniform. This is especially true of the cases presenting urgent symptoms.

The fifty cases in this series are discussed for the purpose of calling attention to the need of greater utilization of common methods of physical diagnosis in order to point out certain defects in our knowledge of the condition, to indicate distressing complications of certain methods of treatment, and, finally, to reach rational methods of treatment based on our experience and the consensus of opinion of men who have had opportunities of dealing with this class of case.

## THE PHYSIOLOGY OF THE CHEST AS APPLIED TO PNEUMOTHORAX

Physiology fails in many respects to account for the phenomena of pneumothorax since each case is in a measure a law unto itself. However, certain physiologic principles are basic and should always be kept in mind in interpreting the indications of this condition.

Normal negative intrapleural tension depends on, (1) the fact that at the first respiration after birth, "the thoracic cage expands more quickly than the lungs, so that the latter become stretched" by the atmospheric air entering through the respiratory passages, and (2), the fact that the lungs thus stretched tend, by virtue of their elastic tissue, to recoil. Thus when inspiration occurs the lungs are more expanded and negative intrapleural tension is increased, and on expiration, the intrapleural tension becomes lessened. The force required to keep an elastic band taut depends directly on the degree of stretching,

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and decreases as it returns to normal dimensions. Thus we have a respiratory fluctuation in intrapleural tension, which determines the movement of air in and out of the lungs. As McLeod remarks "the thorax does not expand on inspiration because air rushes in, but air rushes in because the thorax expands." He gives 5 m.m. mercury on expiration and 10 m.m. mercury on inspiration as the normal intrapleural tension in man. Aron in thirty-six observations on a normal person found the average intrapleural pressure on expiration to be -3.02 m.m. mercury and on inspiration -4.65 m.m. mercury.

In studying pressure in necropsies following various diseases we found a negative pressure. If the respiratory passages are blocked and the thorax expands the intrapleural tension may be as low as -80 m.m. mercury.

The mediastinum in the normal subject is a mobile structure held in position by the traction of the elastic tissue of the lungs exerting pull in opposite directions. If open pneumothorax is induced the lung on that side is collapsed and its tendency to elastic recoil is satisfied. The conditions determining the coaptation of the pleural surfaces on the opposite side remain unchanged and the elastic recoil of the sound lung is partially satisfied by a displacement of the mediastinum toward the sound side. Moreover, respiratory fluctuation of the intrapleural pressure on the sound side occurs with a consequent variation of the tension exerted on the mediastinum and a certain amount of movement of the latter with each respiratory phase. Graham and Bell from experiments on dogs, found that both lungs become equally collapsed when a unilateral open pneumothorax is produced. They are careful to apply this observation only when the mediastinum is unaffected by disease. Clinical and surgical observations make it doubtful whether this holds in man, due probably to the greater fixity of the diaphragm in the latter. The mediastinum of the dog is a much less rigid structure than in man, and is not imperforate; its rigidity more nearly corresponds to that of the infant. In this connection the remarkable rigidity caused by chronic inflammatory disease should also be remembered. In open pneumothorax the dyspnea depends, other things being equal, on the degree to which the elastic recoil of the two lungs is satisfied. It depends on the open side on the strength and extent of the adhesions that prevent the collapse of the lung. In the absence of adhesions on the open side the degree of the lung's collapse on the sound side depends on the fixity of the mediastinum. In cases occurring suddenly

in which no adhesions exist, the respiratory excursions of the mediastinum and the change in intrathoracic pressure combine to interfere with the normal circulation and add to the gravity of symptoms. Hazard is especially great in cases in which the tidal air approaches the vital capacity, as Graham and Bell have pointed out.

An opening in the chest wall at least as large as a cross section of the trachea must next be considered. It might be supposed that in this condition the lung would collapse completely and so remain, yet this is not necessarily true, for West observes that it is not an uncommon experience on opening the chest for drainage of an empyema cavity to find that the lung which has been completely collapsed by the effusion expands as soon as the pus is evacuated, nearly approximating the chest walls immediately after operation. This phenomenon has been repeatedly demonstrated in our own experience. In one instance when operating for the removal of mediastinal tumor, cough and deep breathing made it difficult to keep the lung within the thorax. West explains the phenomena he describes: "The air in the tubes is not subject simply to atmospheric pressure during the phases of respiration. During inspiration a certain obstruction to the free ingress of air is encountered which produces a subatmospheric pressure in the tubes amounting to 5 m.m. mercury. During expiration, a similar obstruction to the free egress of air is met producing a pressure of 1.5 m.m. to 2 m.m. mercury above that of the atmosphere." He believes that these pressure oscillations are sufficient to expand the lung at least one-half and perhaps more, provided it is unhampered by adhesions. In operative work it is impossible to determine whether or not on opening the chest a lung will collapse. Lockwood believes there is less danger in an opening large enough to admit the hand than in a small one.

In valvular pneumothorax air finds easier access to the cavity during inspiration than issues from the cavity during expiration. During the early stages, pneumothorax is always more or less valvular and as soon as the lungs become completely collapsed the lesion becomes completely closed whether it is sealed or not. It is quite possible that some of the grave symptoms believed to be due to valvular pneumothorax are in reality due to additional successive rents in the pleura.

By subjecting the bronchial tree to a pressure of 10 cm. of water it is possible to expand the retracted lung in the presence of an external pleural opening. Tuffier states that in applying



this procedure the upper lobe expands easily, the middle lobe less so, and the lower lobe least so. From this he concludes that the lower lobe has the greatest elasticity.

Means and Balboni in a study of respiration in persons with pneumothorax, found that one lung is as efficient as two except when the work done calls for more than a three-fold increase in normal ventilation. They state that the only difference between normal persons and those with a collapsed lung is that the latter, when called on to increase their ventilation, reach their limit a little sooner than the former.

We are unable to reach definite conclusions with regard to what occurs in the circulation of a collapsed lung. Cloetta on the basis of plethysmographic experiments, supports the theory that it is better to irrigate the lung during collapse than during inspiratory expansion. Corper, Simon and Rensch working with rabbits, and producing unilateral closed pneumothorax, injected suspensions of Prussian blue, scarlet red and starch intravenously. These substances were found uniformly distributed through the lungs immediately after injection and two hours thereafter. It was also found that the Prussian blue disappeared uniformly, indicating that the circulation of the two sides was maintained equally. This finding is supported by our clinical observation that lungs that have remained collapsed for a long time may regain complete function without evidence of nutritional disturbance.

#### ETIOLOGY

The etiologic factors present in the series of fifty cases may be tabulated as follows:

	Cases
Tuberculosis .....	28
Empyema .....	8
Spontaneous pneumothorax (cause unknown).....	6
Bronchial fistula (non-tuberculous).....	3
Traumatism .....	3
Therapeutic measures (artificial).....	3
Emphysema .....	2
Lung abscess.....	1
Thoracentesis (accidental during) (Fatal with needle) .....	1
Pneumonia (complication).....	1
Lymphosarcoma (complication).....	1

It will be observed that the cases tabulated total more than fifty; two factors were present in some of the cases and the real cause of the pneumothorax could not be determined. As an example of this overlapping, pneumothorax was induced as a therapeutic measure in three cases, two of tuberculosis, and one of lung abscess. Emphysema was claimed to be the cause of the pneumo-

thorax in two cases in which other factors were ruled out by careful study and in which emphysema was known to be present. Five cases classified as spontaneous fulfilled Hamman's definition except that in two cases the pneumothorax persisted more than eight weeks. In one of these the history made it very probable that there had been successive attacks which prolonged the period of absorption. We believe then an arbitrary time limit as an absolute criterion of diagnosis of spontaneous pneumothorax is unwarranted, and that the findings peculiar to each case can alone determine to which group it should be attributed.

Nineteen cases of simple pleural effusion in the series were previously aspirated on an average of two and eight-tenths times. It is impossible to know how many times aspiration was responsible for air in the pleural space. It must not be assumed that the pneumothorax following aspirations is necessarily due to leakage through or about the needle. Puncture of the lung may provide the means for entrance of air from the bronchial system. This was clearly demonstrated in a recent case not included in the series in which an exploratory puncture was made. The needle pierced the lung and at necropsy the rent was found patent and promptly emptied the lung after inflation. The escape of air could be detected coming from the puncture opening when the inflated lung was immersed in water. It was difficult for the artist to obtain a proper view of the lung as it became too promptly deflated. The lung was emphysematous, and the results might not have appeared in a normal lung. We have repeatedly demonstrated the same condition in lungs punctured after death, when normal elasticity seems to have been interfered with.

From a study of the literature we find a general agreement that tuberculosis is the cause of pneumothorax in from 75 to 90 per cent of cases. Thus Biach's oft quoted 918 cases occurring in the Vienna hospitals show that 715 (77 per cent) were due to tuberculosis. West estimates that 90 per cent of cases are due to perforation of the lung because of the breaking down of a tuberculous focus. Pneumothorax has been observed as a complication of tuberculosis by Gaillard in 36 of 3415 cases (1 per cent); by West in 5 per cent of cases, by Fowler and Rickman in 6.5 per cent of 1000.

As a rule pneumothorax occurs in the cases of tuberculosis in which the disease is advancing rapidly, though it may occur from the rupture of a small tuberculous nodule near the periphery of the lung when no other tuberculous foci are discoverable elsewhere in the lung. Letulle in two

excellent illustrations of pathologic specimens, shows the method of perforation, and emphasizes the fact that pleural adhesions are potent factors in preventing the collapse of the lung. He states that a single perforation is rare, and West points out that in twenty-five perforations, two openings occurred in four cases, and four each in two cases; the openings occurring twice as often in the upper as in the lower lobe and usually being not more than from 2 to 3 mm. in diameter. In nineteen of these twenty-five cases necropsy was performed within a week and the opening was still patent; in six cases the openings remained open for from thirteen days to five months. This shows that the opening may often persist for months.

Pneumothorax furnishes strong presumptive evidence of tuberculosis and, conversely, air in the chest as a complication of known cases of pulmonary tuberculosis must always be looked for.

We are inclined to regard pleural adhesions as a protective process against the accident of perforation. If there are adhesions of sufficient strength, pneumothorax does not exist. It occurs at the advancing edge of the disease, probably because of the insecurity of union between the visceral and parietal pleurae. We believe that if this were not true, the complication would appear in a very much larger percentage of cases. The presence of apical pleurisy is a benignant process of conservation.

#### DISCUSSION OF LITERATURE

An extensive literature has accumulated around the cases classified spontaneous pneumothorax. Hamman has best defined this condition as "A pneumothorax coming on in apparently healthy individuals without ascribable cause; resulting in no infection of the pleura and therefore unaccompanied by constitutional symptoms, and healing rapidly and completely in a few weeks." He believes a duration greater than eight weeks makes it doubtful whether the case should be denoted spontaneous. Zahn is quoted as ascribing this type of pneumothorax to one of four mechanisms: (1) the rupture of a vesicular bleb; (2) the rupture of interstitial emphysema bleb, the air finally making its way to the pleura rupturing through it; (3) the direct tear of the pleura by the tug of adhesions; and (4) senile atrophy of the pleura. Hamman noted sixteen instances in the literature of recurrences of pneumothorax. In three of these and in one of his own series, the recurrences were on the opposite side. Abt and Straus and Meyer report two cases of spontaneous pneumothorax with ne-

croses which demonstrated emphysema to be the etiologic factor. In the latter case, the pneumothorax was recurrent and involved both sides for a period of at least twenty-four days. Hewlett and Leclerc each add a similar case in which the patient recovered, though the second side was not involved until the first side had partially returned to normal. These cases denote the margin of safety inherent in the lungs, and show that bilateral pneumothorax is not immediately fatal unless it is approximately total in both pleural spaces at the same time.

Emerson regarded aspiration as responsible for the condition in ten of forty-eight cases which he reports, and he postulates no less than seven ways in which this accident could occur, the commonest of which are the probable injury to the lungs by the needle, the creation of a negative pressure which may cause the rupture of a superficial cavity or an emphysematous bleb, or the tearing of the visceral pleura at the site of adhesions. Galliard records a case of pneumothorax due to injury of the lung by the aspiratory needle similar to one of Emerson's cases. West asserts that he has repeatedly observed the lung to burst under aspiration. Such an accident becomes of serious moment when it is recalled that it incurs not only the danger of a sudden pneumothorax but also the risk of infecting the pleural cavity from an infected lung.

#### SYMPTOMATOLOGY AND DIAGNOSIS

Forty-two of the fifty patients (84 per cent) were males. Twenty-four (18 per cent) were in the third decade; seventeen (34 per cent) were in the fourth decade, and six (12 per cent) were in the second decade, making a total of 96 per cent in these three decades. This age incidence will be recognized as the period in which tuberculosis is most active. The age incidence is as follows:

Patients from 21 to 30 years.....	48%
Patients from 31 to 40 years.....	34%
Patients from 11 to 20 years.....	12%
Patients from 41 to 50 years.....	4%
Patients from 51 to 60 years.....	2%

The right side was involved in twenty-eight patients and the left side in twenty-two.

The onset of pneumothorax may be sudden, insidious, or silent. In seventeen cases only, the onset was acute with stormy symptoms of dyspnea, severe pain, cough, or shock, which is so frequently described. In nine cases the onset might be described as insidious in which the symptoms were mild, gradually growing more annoying but never becoming extremely urgent. In



one case, it seemed likely that there were successive accessions of air to the pleural cavity with corresponding increase in symptoms. In twenty-four cases the onset may be said to have been silent, for the histories did not record symptoms at any time that would lead to the suspicion of pneumothorax. It is precisely this group of cases that is overlooked unless the age incidence of the disease and the fact that tuberculosis is the usual etiologic factor be kept in mind and unless a careful and systematic examination be made of the chest. Seventy-five per cent of these silent cases were revealed only by the x-ray and by operative findings.

Pepper, in an analysis of 500 case histories, found that the onset of pneumothorax was insidious in 115 cases (23 per cent). Fredericq has reported two cases which occurred without symptoms. Rist and Ameuille found at necropsy supradiaphragmatic collections of air which had previously escaped detection. This, they assert, is the usual site of pneumothorax in tuberculous subjects. They believe the accident is often terminal and accounts for the ante mortem dyspnea. Sabourin has reported cases in tuberculous subjects in which the pneumothorax occurred in the fissures, remaining interlobar because of pleural adhesions at the periphery of the lung. These cases fall into the group in which are few or no symptoms and he holds that amphoric breathing along the fissural line is the sign of greatest importance.

In the cases in our series in which the onset was acute there was sudden pain in the chest, dyspnea, and cough either alone or in combination. In a few cases the pain was referred below the diaphragm. In one case the patient had for months been able to produce a splash by shaking the body.

In 10 per cent of the cases there was a history of the patient suddenly raising a large quantity of sputum, a fact that should always arouse the suspicion that pneumothorax may have occurred.

In interpreting physical signs it must be borne in mind that one is likely to find fluid complicating pneumothorax. In thirty of our cases (60 per cent) fluid was present. No phase of exploration of the chest should be neglected. Inspection may reveal cyanosis, dyspnea, absence of respiratory movement on the affected side, displacement of the heart, and occasionally, a filling out of the interspaces on that side. Cruice observed bulging of the chest in 77 per cent of cases, but in our series this was a very infrequent finding except in the cases complicated by a large amount of fluid. Percussion may not yield sig-

nificant information as the note may vary through resonance, to tympany, and to dullness. The note may be indistinguishable from that obtained in emphysema or effusion. Thacher attributes the dull note of percussion to air under tension which robs the wall of the chest of its elasticity and thus impairs its resonance. In our experience the most accurate percussion sign is obtained by the determination of lung motility. In pneumothorax it is found that resonance covers the entire pleural area and is unaffected by inspiratory movement. In the normal lung a shifting of resonance during expiration and inspiration is easily discovered. If maximum inspiratory resonance is maintained during both phases of respiration, there is air in the pleural cavity. If, however, pneumothorax is complicated by the presence of fluid, an easily diagnosed shifting dullness and succussion splash provides sufficient data for a positive diagnosis.

On auscultation the coin test was the most constant finding in our cases, and Cruice states that it was present in 90 per cent of his cases. Distant or absent breath sounds are highly important findings. Metallic tinkle was found in only a few cases of the series, and amphoric breathing was an infrequent finding. The absent or diminished excursion of the affected side, distant or absent breath sounds, the bruit d'airain, and the succussion splash are the signs of chief diagnostic importance.

The method of the production of the metallic tinkle is still a subject of controversy. Barach, from an experimental study, concluded that metallic tinkle is produced most typically by a bubble of air escaping from the fistulous opening of a diseased lung below or at the level of the fluid. He asserts that it may be produced by the bursting of a bubble within a bronchial tube when the bronchial tube is connected directly with the air chamber by a fistulous opening of sufficient size, or by a bubble rising from the moist surface of a perforated lung above the level of the liquid when the bubble is expelled with sufficient force. All of these methods presuppose a patent perforation of the lung.

West believes that metallic tinkle may be present in the absence of fluid and is then due to the escape of bubbles of air from the ruptured pleura into the distended pleural cavity. Thacher believes that rales in the neighborhood of large cavities and particularly in pneumothorax set up vibrations whose higher overtones are so pronounced that the sounds become musical tinklings. Rosenbach holds a similar view. Galliard records a case of left sided pneumothorax in



which a metallic tinkle could be heard synchronous with the heart beat when the patient lay on his back, on his left side, or was in a sitting position. Galliard ascribed this to mediate percussion by the heart on the resonant space formed by the distended pleura. We have seen this illustrated in a case of advanced tuberculosis with destruction of the entire left lung and its area occupied by a single immense cavity. A pericardiac friction rub could be heard at a distance from the patient as a very high pitched metallic sound. It was accentuated if the patient's mouth was slightly open. We believe this to be due to the amplifying influence of the large air chamber.

A similar difference of opinion exists concerning the genesis of amphoric breathing, some authorities (Thacher, Norris and Landis), claiming that a patent opening between the lungs and pneumothorax cavity is a necessity. Others believe it may be generated by vibrations propagated from neighboring parts of the lung or bronchial tree (Lord, Fussell and Riesman). We are of the opinion that both mechanisms can produce it provided the proper tension is attained in the wall of the chest to produce unrythmic vibrations.

Certain rare symptoms and signs of pneumothorax are worthy of mention. Lublinski records a case in which there was paralysis of the left recurrent laryngeal nerve caused, he believes, by the marked displacement of the heart to the right. The paralysis disappeared when the lung reexpanded and the heart had returned to its normal position.

Honeij reports a case of left pneumothorax with adhesions which prevented complete collapse of the lung in which there were non-expandible pulsations in the left posterior axillary line from the scapula to the base caused by heart pulsations transmitted through the fluid. Ingram records a case of generalized subcutaneous emphysema, a complication of tuberculous pneumothorax, which appeared first at the root of the neck. Since there was no rent in the parietal pleura he believed that the rupture occurred in the mediastinum, the air from thence making its way along the trachea to the root of the neck.

Williamson in a study of thirteen cases of pneumothorax and hydropneumothorax, found that the blood-pressure on the affected side was 16.5 m.m. mercury lower in the leg than in the arm. He attributes this to intrapleural pressure on the descending aorta.

An interesting, and probably not infrequent, occurrence is the onset of pneumothorax with abdominal symptoms. Beardsley reports such a case in a patient with tuberculosis of the lungs

and bowels in which the onset was sudden with acute pain to the left of the umbilicus, and muscular rigidity which led to the suspicion that an ulcer had perforated. At necropsy two days later there was no perforation, but a left pneumothorax with marked displacement of the heart was found; this condition had not been considered before death.

During the influenza epidemic in 1920, we observed served two cases in which empyema began with pain and board-like muscular rigidity simulating acute abdominal crisis. We believe this to be referred pain through the seventh to the twelfth dorsal segment. Pneumothorax was not a complication and both patients recovered. The effect of fluid and air on pleura however, is identical.

Sampson, Heise and Brown have made a study of pulmonary and pleural annular shadows observed in roentgen examination of fifty patients. These shadows were formerly interpreted as intrapulmonary cavities, but further studies led the authors to conclude that the shadows occur in patients who are probably suffering from pulmonary softening, and they indicate a rupture of the lung. These localized pneumothoraces usually occur in the upper part of the great oblique fissure and in the horizontal fissure on the right; they may have a mural location. They frequently contain fluid and thus present fluid level which may be seen to shift when the patient changes position during fluoroscopic examination. The annular shadows surround areas of increased or equal absorption of the ray. These authors assert that such pneumothoraces can rarely be diagnosed clinically. They were found in 11.8 per cent of 423 cases.

If the physician rarely primarily discovers these shadow-like rings, he often excludes a true cavity by clinical diagnostic methods. In one of the cases of our series a shadow of this type was discovered and diagnosis of pulmonary cavity was made by the aid of the roentgen ray. Examination of the chest in the region of the ring revealed that whispered pectoriloquy, cavernous or amphoric breathing, gurgling or consonating rales were absent. Over this area percussion yielded a tympanitic note and pleuritic friction sounds were heard which, taken with the fact that the ring occurred over the right lower lobe, made the diagnosis of intrapulmonary cavity untenable.

Fishberg, in an earlier article, called attention to these localized pneumothoraces. In differentiating them from pulmonary abscess he points out that in the latter moist consonating rales, broncho-

phony and an absence of metallic tinkle or amphoric breathing may be noted. In the former, he emphasizes the sudden onset, the absence of adventitious sounds, the presence of metallic tinkle, amphoric breathing and whispered pectoriloquy. These signs are most suggestive when heard high in the axilla.

False pneumothoraces, which may be defined as extrathoracic collections of air, must be excluded. Lebon, in a roentgenologic study of these cases, found that the stomach, distended with gas, projected far into the left side. In one case the heart was displaced to the right, and in one an air bubble in the stomach lay between the left margin of the heart and the wall of the chest. Stivelman asserts that hydropneumothorax may be simulated by cases in which the diaphragm is in a high position due either to extreme pulmonary fibrosis or gastrectases, and that these extrapleural pouches are characterized by their failure to absorb the contained gas, the fluid level varying with food ingestion and the emptying of the stomach. On fluoroscopic examination a barium bolus may be seen to enter the supposed hydropneumothorax. Thus the roentgen ray is an indispensable adjunct in the diagnosis of pneumothorax, especially in the localized and the so-called false varieties.

#### PROGNOSIS

The prognosis of pneumothorax is largely the prognosis of the pulmonary lesion which it complicates. If it occurs in tuberculous subjects, the outcome will depend largely on the degree of involvement of the lung by the tuberculous process. In a few cases pneumothorax results from the rupture of a solitary nodule of the lung with no discoverable pulmonary lesions elsewhere, as in the cases cited by Weber. These cases obviously offer a more hopeful prognosis than those in which extensive and rapidly advancing disease of the lung is a complication. Pneumothorax occurs chiefly in the rapidly advancing type of pulmonary tuberculosis or in the terminal stages of the disease and hence is regarded as a grave prognostic sign.

In the analysis of fifty-one cases of pneumothorax in tuberculous subjects, Morse states that the pneumothorax is the cause of death in 60 per cent, that 80 per cent of the patients die in less than one year, and that 10 per cent live more than five years. West in an analysis of 101 cases of tuberculous pneumothorax states that the mortality was 65.4 per cent. In thirty-nine of these patients the duration of life was known; 75 per cent died within the first fortnight and 90 per cent within a month. The presence of annular

shadows indicated a somewhat graver prognosis in the series of cases studied by Sampson, Heise and Brown. In all cases the prognosis further depends on the rationality of the treatment adopted both with respect to the general supportive measures, and to the operative treatment employed in combating urgent dyspnoea, and in the management of collections of fluid, or pus in the chest.

Fussell and Riesman collected from the literature in 1902 fifty-six cases in which there was but a single death from spontaneous pneumothorax. In five of our cases classified as spontaneous there were no deaths. However, in a later case not included in the series, the patient was seized with symptoms of urgent dyspnoea following an operation for extirpation of the lacrimal sac, and death followed in five hours under expectant treatment. A previous careful examination had not revealed evidence of pulmonary disease and the case was classified as spontaneous pneumothorax. As a whole, the patients with spontaneous pneumothorax have the best outlook, provided they weather the storm of the sudden onset.

Six deaths are known to have occurred in our series of fifty patients, one from influenza, one from abscess of the lung, and four from the combined effects of advanced tuberculosis and empyema. It has not been possible to obtain data concerning the remaining patients long enough to make our mortality statistics of value.

#### TREATMENT

The part which Emerson believes aspirations play in his cases has been pointed out herein. Previous to entering the Clinic, nineteen of our patients were aspirated on an average of 2.8 times. No doubt pneumothorax and what is perhaps its most serious complication, infection of the pleural cavity, might be avoided in many instances if aspirations were practiced less frequently or if they were performed by men more experienced in surgical technic. Only the most careful technic is permissible in these cases. We believe that expectant treatment is insufficient in the urgent cases. Paracentesis should be tried; this view is supported by Fussell and Riesman, Meyer, Lord, Rosenbach, Finlay and Weber. Lord, and especially Rosenbach prefer to give conservative methods a thorough trial first. West considers aspiration dangerous, and uses a fine trocar or needle to which he attaches a rubber tube, the latter being allowed to open under sterile water. This method commends itself as the one calculated to do the least injury. In referring to the danger of reopening the perforation, Finlay



aptly remarked. "It is better to run the risk than to allow the patient to die from asphyxia." Marshak and Craighead report six cases of sudden pneumothorax occurring during the course of induced pneumothorax. Their patients were successfully treated by repeated aspirations controlled by manometric readings. Sufficient air was withdrawn to relieve the dyspnoea but not enough to allow the lung to reexpand. The method is certainly logical but requires a special apparatus and some skill in its use. Finally, a great many patients under expectant treatment promptly adjust themselves to the new circulatory and respiratory conditions. However, it is probably better to perform a paracentesis a little too early than to delay too long.

We consider that aspiration in hydropneumothorax is indicated only for diagnostic purposes or to relieve urgent dyspnoea. The most serious danger of repeated aspiration, aside from that creating a superadded pneumothorax, is the danger of converting a hydropneumothorax into a pyopneumothorax, a sequence that had occurred in five of our tuberculous patients before we saw them. Rosenbach, in speaking of paracentesis, in such cases says, "If the exudate is at all large two or three repetitions of the procedure, even when carried out with the greatest care, are practically certain to produce putrefaction and lead to rapid loss of strength."

The treatment of pyopneumothorax follows the principles of the treatment of ordinary pyothorax except the taking into account of the underlying lesion of the former which is frequently tuberculosis complicated by a pyogenic infection, a condition peculiarly refractive to ordinary methods of treatment and one warranting a very guarded prognosis.

All writers agree that pneumothorax as a therapeutic measure in tuberculosis is indicated in repeated hæmoptysis. Robinson and Floyd advocate its use in cases advancing in spite of the usual methods of treatment. Morris, among other indications, advised the use of the method in recent progressive ulcerative lesions with slight activity in the opposite lung. The measure was employed for two of our patients, one was given twenty injections, over a period of seven months. A hydropneumothorax and a greatly thickened pleura resulted. Another patient having had a number of air injections developed a series of sinuses at the site of injections, and a pyopneumothorax. These results do not necessarily condemn the method, but point out possible dangerous sequelae. We agree with Kendall and Alexander that pleural effusions, especially if they

are purulent are serious complications. They are believed to occur as a complication of artificial pneumothorax in from 20 per cent (Kendall and Alexander) to 50 per cent of cases. Simon and Swezey have reported a case of lung abscess successfully treated by two injections of air into the pleural space. One of our patients had been treated in this manner for four months and presented himself with a pneumothorax and an abscess of the lung. His chest was aspirated five times, rib resection was performed twice; the patient finally died from pulmonary hemorrhages. It is questionable whether one should temporize with such a method for it seems inadequate in dealing with such a serious disease. Although the procedure will not induce the cure for pulmonary diseases that may have been expected, yet we believe with carefully selected cases, and careful examinations, artificial pneumothorax has won its place as a worthy therapeutic procedure.

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## THE ACUTE ABDOMEN\*

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The acute abdomen is either medical or surgical, and whenever a case presents itself with acute symptoms referable to the abdomen, we should always look upon it as an emergency until absolutely proven otherwise. We should use every means at our command to arrive quickly at a correct diagnosis, for every moment lost will diminish the chance of recovery if an emergency exists.

If after the diagnosis, the abdomen is medical, the management of the case and the plan of treatment can be worked up and thought out at the discretion of the attendant, but if the abdomen is surgical the treatment is that of an emergency.

In the treatment of the acute surgical abdomen, cathartics have no place, the most which can be accomplished by their use, in any case, is to demonstrate that the condition is not serious. In every case in which the use of a cathartic is not actually dangerous to the life of the patient, it is not needed, because there will be a natural evacuation if no remedy is used. Never in any acute inflammatory condition of the abdomen use a cathartic and especially is this true in any form of obstruction, whether this be due to strangulated hernia, bands or adhesions, intussusception, kinking of intestines, diverticulæ, volvulus or neoplasms, for any one of these, the intestine suffers so severely as a result of the pressure from the peristaltic action caused by cathartics that the walls become permeable to the passage of septic material, and thus scatter it throughout the abdomen. There can, therefore, be no reason why peristalsis should be initiated by the use of cathartics. Even the smallest amount of cathartic may change a harmless circumscribed infection into a serious diffuse peritonitis, and in the non-obstructive cases the empty bowel is not desirable, because it is conducive to gas.

Morphine also, is a most dangerous drug in the treatment of acute abdominal disease, and is a foe to accurate diagnosis, since it inhibits peris-

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tals and favors relaxation of the abdominal wall in those peritoneal lesions, where rigidity is one of the best clinical signs. Morphine should only be given, when it has already been decided to operate, or where it is certain that operative interference will not be required.

The treatment of the acute surgical abdomen, is operative, in the language of the great Murphy, "Now is the acceptable time," meaning that as soon as the diagnosis is made, operation is in order. Murphy spoke thus of appendicitis, but let us take a stride farther and say that in the acute surgical abdomen, now is the acceptable time to operate. The judgment of the majority of surgeons, is that immediate operation at whatever time, the condition is recognized is not only justifiable but will conserve the best interests of the patient.

Taking this as our cue let us go over the acute surgical abdominal conditions taking what we need of the history, symptomology, physical and laboratory findings necessary for a diagnosis, and what surgery is necessary for the best interest of the patient. We will at this time, for the reason of conserving time, omit the acute pelvic conditions which in reality are not the truly abdominal conditions but rather pelvic and come under the jurisdiction of the obstetrician and gynecologist. Also we will omit the extra peritoneal conditions.

For some time it has been generally accepted that in many cases of disease in the abdomen, a pathological tripod stands in that cavity with feet implanted in the appendix, biliary apparatus, and gastro-duodenal tract. The co-existence and sequential development in any order of appendicitis, cholecystitis, or cholangitis, and gastric or duodenal ulcer, is familiar to clinicians and surgeons. Opinions vary as to whether one or the other of the three stands in casual relation to the others, or all three are derived from a common and central source, in the form of catarrhal inflammation of stomach and bowel.

As the records of cases accumulate, it is becoming evident that the tripod is being gradually replaced in the problem, by a quadrupedal figure—pancreatitis is claiming increasing attention.

#### ACUTE PANCREATITIS

Acute pancreatitis, necrotic, hemorrhagic and suppurative is rarely suspected until discovered at autopsy, or in the course of a laparotomy undertaken for a supposed perforated gastric or duodenal ulcer, a fulminating appendicitis, or other similar acute abdominal affection calling for operation. The case commonly goes to the operating table a surgical puzzle and leaves the hos-

pital by way of the morgue a surgical disaster, though operative treatment is now claiming an increasing number of successful results.

A condition that more closely resembles a perforating hollow viscus is acute pancreatitis, the pain is perhaps more severe than in any of the other abdominal condition with the exception perhaps, of perforated ulcer, and rupture of the gall bladder; in fact, it is often so overwhelming as to cause early collapse and syncope. I once heard Dr. J. B. Murphy say that this is the only pain not relieved by a one-fourth grain morphine given hypodermically. It is often the collapse and extreme pallor upon which the diagnosis of the condition is made. The pain may be either constant or paroxysmal with a tendency to localize in the epigastrium, but it may radiate to the left. Rigidity is not extreme, but tenderness in either the epigastrium or left costovertebral angle depends upon whether the body or the tail is the site of the pancreatic lesion. Vomiting is persistent, and constipation often so obstinate as to suggest intestinal obstruction, a diagnosis that is infrequently made. Distention is a marked symptom, at first appearing in the upper abdomen, but later becoming generalized. The pulse is characteristically small and weak. The temperature is not very significant, although in very acute cases it may be subnormal, while in the subacute it may rise to 103° or 104° F., glycosuria sets in later as tissue destruction advances.

The fact that the symptoms of acute pancreatitis are preeminently those of peritonitis makes diagnosis difficult, yet any abdominal condition ushered in with severe, agonizing pain, with symptoms of peritonitis should be looked upon as pancreatitis. The treatment is surgical and should be instituted at once.

#### ACUTE APPENDICITIS

The symptoms of this acute abdominal condition in the order of their occurrence, may be mentioned as; first, pain in the abdomen, sudden and severe, primarily referred to the epigastrium, usually colicky in character, although patients vary in their expressions of its severity. Never is it absent as an initial symptom and reaches its acme of intensity about four hours after its onset and subsides gradually in the majority of cases, when it ceases suddenly within the first thirty-six hours, the subsidence is due either to the liberation of the infective material into the cecum-rupture, or complete gangrene. The secondary pain, after the first thirty-six hours is usually not colicky, but of the typical inflammatory type, and due to periappendicular involvement. Severe



pain after the primary subsidence is always a signal of great danger, as it announces a beginning peritonitis from perforation.

Second; nausea or vomiting, most commonly between three and four hours after the onset of pain, it is reflex, due to overdistension of the appendix from the accumulating products of the infection. There are usually only a few efforts at emesis and the nausea then passes away. The secondary nausea, and often persistent vomiting, are due to the periappendicular involvement, that is, infection of the peritoneum.

Third; general abdominal sensitiveness, most marked on the right side or more particularly rigid. When the appendix becomes fully distended and tense, it will not tolerate pressure and is protected by a marked rigidity of the abdominal muscles. After the acute tension subsides, the sensitive area becomes circumscribed in the region of the appendix.

Fourth; elevation of temperature beginning from two to twenty-four hours after the onset of pain. It is never absent in the acute infective case in its early stage; that is, in the first thirty-six hours after the onset of the symptoms.

Fifth; leucocytosis which is to be considered only as corroborative, should be sought as a matter of routine. Where the absolute white count is 20,000 or over, there is reason to suspect the presence of pus.

The treatment is operative, procrastination should not be regarded as a manifestation of knowledge, experience, judgment, or true conservatism.

#### GALL BLADDER DISEASE

Next to appendicitis, gall bladder disease is probably the commonest intra-abdominal lesion. This is evident both by the reports of operative procedure and by necropsy statistics. Most writers on gall bladder disease have noted the great preponderance of the disease in the female sex as contrasted with the male. It is essentially a disease of middle age, but undoubtedly many lesions originate early in life but remain dormant, or produce indefinite, minor or vague symptoms until middle age. It occurs with increasing incidence with the advancing decades, the greatest frequency being between forty and fifty years of age. In affections of the gall bladder, reliance must be placed upon a history of repeated attacks of gall bladder pain. Patients presenting themselves with gall bladder trouble may be divided into one of three groups.

Group 1. *Typical Biliary Group*—These cases are characterized by severe pain, usually localized in the epigastrium or right hypochondrium,

sudden in onset, and in cessation, radiating usually to the back and shoulder, frequently accompanied by nausea and vomiting, and requiring morphine for relief. Recurrent attacks, usually extending over a long period of time, of increasing frequency, and associated occasionally with transient jaundice.

Group 2. *Atypical Biliary Group*—In this class of patients the symptoms are mainly dull aching pain in the upper right quadrant with tenderness, fever, some nausea and vomiting. The pain is usually of several days' duration. Jaundice may or may not be present. The attacks are fairly typically inflammatory in character and in findings, are usually accompanied by a septic temperature curve, and a fairly high white blood count.

Group 3. *Gastric Group*—Patients of this group have attacks characterized by epigastric distress or discomfort, a feeling of fullness after meals, relieved by belching of gas and sometimes by vomiting. Idiosyncrasies for various kinds of food are quite prominent, giving the so-called "qualitative" food dyspepsia in contrast to the quantitative food dyspepsia of gastric ulcer. Many of these patients are treated for years for gastric or duodenal ulcer without any special permanent relief.

The treatment is operative and cholecystectomy is the operation of choice in cholecystitis and cholelithiasis whenever feasible. There is marked beneficial effect in the long continued drainage of the biliary passages in the complicated cases of cholecystitis and pancreatitis. There is an increasing mortality rate with the increase in the complication of disease, hence the argument for early diagnosis and operation.

#### PERFORATED GASTRIC AND DUODENAL ULCER

The subject of diagnosis has been so thoroughly worked out, that there is little to say respecting gastric and duodenal ulcer. The history, when carefully taken in duodenal ulcer, is so typical with respect to periodicity, the attacks occurring usually in the autumn and spring, premeal pain, pain particularly at midnight, and vomiting at the same midnight hour if at all, coupled with the finding of blood in the stomach contents or in the feces, this depending upon the time of examination and the age of the ulcer. Occasionally, in both the duodenal and gastric ulcers, the perforation occurs without any previous symptoms, but usually a definite ulcer history can be elicited previous to the symptoms of perforation. The patient suffers from a very acute pain in the upper portion of the abdomen, and the pain is usually

described as coming on with a feeling as though something had ruptured. The pain is sudden, violent and agonizing and may be referred to the chest, the back or the shoulders.

There is early nausea and usually vomiting of stomach contents, which may or may not be mixed with blood. Physical examination elicits a rigidity which is first marked in the upper abdominal zone, and is extreme and board like, and more severe than in any other pathological condition in the belly.

Immediate operation is always indicated providing the patient comes under observation during the first twelve hours, after this, the method of treatment must depend upon the judgment of the surgeon. The rupture must be repaired using care not to cause a narrowing which might later produce an obstruction. Thorough drainage should be established, and while it is the consensus of opinion that it should be a routine to perform a gastroenterostomy at the time of closing, yet others state that it is rarely necessary or wise to do so.

#### INTESTINAL OBSTRUCTION

Patients suffering from intestinal obstruction, whatever the cause, should be operated at once and they should never, under any circumstances, receive either cathartics or food by mouth after this condition is even suspected. This condition demands not only judgment and technical skill, but also experience for its best treatment. Time must not be lost, operation should not be reserved as a last resort, it is the conservative treatment and should be applied at once.

Mistakes of diagnosis are not so serious as delay of operation, the conditions which may be mistaken for acute intestinal obstruction are also conditions requiring operative treatment. The diagnosis should not be difficult, there is constipation, pain in the abdomen, and vomiting. Pain sets in early, and may come on abruptly while the patient is walking, or more commonly during the performance of some action. It is at first colicky in character, but subsequently it becomes continuous and very intense. Vomiting follows quickly, and is a constant and most distressing symptom. At first, the contents of the stomach are voided, and then greenish bile stained material and soon, in cases of permanent obstruction, the material vomited is a brownish-black liquid, with a distinctly fecal odor. This sequence of gastric, bilious, and finally intestinal vomiting is perhaps the most important diagnostic feature of acute obstruction. When the obstruction is low down, especially in the colon, vomiting may not come on

for many days, even though the obstruction is complete. "The higher the trouble the sooner the vomiting, is a good general rule."

#### CONGENITAL PYLORIC STENOSIS

As to the characteristic symptoms and clinical findings, it will be noticed first, that the patient has only slight vomiting at the age of fourteen to twenty-one days. The onset may occur from two to six weeks of age, rarely in the first, most often in the second or third. The vomiting gradually increases in severity until it becomes projectile in character. There will be constipation to a certain degree with green mucus stools, the constipation develops in proportion to the degree of obstruction. On examining the abdomen one can readily see the peristaltic waves passing from the left hypochondric region. The diagnosis is based primarily on these peristaltic waves, projectile vomiting and progressive loss of weight. Infants with well developed pyloric stenosis not only show extreme emaciation and starvation, but there is extreme dehydration with the passage of very small amounts of urine. Secondly the diagnosis is based upon palpation of tumor, the finding of which depends upon: 1. Behavior of babe during examination. 2. Emaciation. 3. Location of tumor in relation to adjacent viscera, and fluoroscopic examination, and I should put fluoroscopic evidence to the last and least, since it only visualizes information previously obtained.

Early diagnosis and early operation gives the best chances for recovery. The operation of choice is the Ramstedt or some modification.

#### INTUSSUSCEPTION

The suddenness of the onset is quite characteristic of intussusception, the majority of cases are ushered in with sudden, violent pain of colicky character, which is followed shortly by vomiting, then a diarrhea first of fecal matter, then mucus, bloody mucus, or pure blood, together with their liquid bowel contents. At this time there are symptoms of marked prostration and even collapse. The pulse becomes small and rapid, and a rise in temperature in the early stages is rarely observed. Tenesmus and meteorism is frequently a source of great suffering. If the child is given freedom on the bed, it will take the knee chest position, burrowing the head into the pillow during the course of the pain.

The treatment is operative, and requires a great deal of surgical judgment on account of the varying amounts of pathology and damage produced by the intussusception. The treatment will vary from simple reduction, to resection and anastomosis.



## PERFORATING TYPHOID ULCERS

Early diagnosis and early operation mean the saving of one-third of the cases of this heretofore uniformly fatal complication of typhoid fever. The aim should be to operate for the perforation, and not wait until a general peritonitis diminishes by one-half the chances of recovery. An incessant, intelligent watchfulness on the part of the medical attendant and the early cooperation of the surgeon are essentials. Every case of more than ordinary severity should be watched with special reference to this complication. Thorough preparation by early observation, careful notes of the progress of the case, and a knowledge of the present condition will help to prevent needless exploration. No case is too desperate, and in doubtful cases it is best to operate as experience shows that patients stand an exploration very well. Perforation occurs usually between the fourteenth and twenty-first days, or in other words, in the third week of the disease, the location of which is mostly in the last twelve inches of the ileum. Sudden, severe, agonizing pain, with extreme tenderness and rigidity, being the cardinal signs of perforation. The lesion is best exposed at the site of greatest tenderness.

## PERFORATIONS AND TRAUMATIC INJURIES

Every abdominal wall which shows a penetrating sound, whatever its location and whatever the agent that inflicted the wound, should be opened. Similarly, severe blows on the abdomen, or a fall on the abdomen, or being crushed between wheels etc., should bring to mind the possibility of one of the various subacute injuries that not infrequently occur. In these cases it is better to open the abdomen on suspicion and find nothing, than to wait for an assured diagnosis and hemorrhage.

## OMENTUM

The disease of the omentum that comes under this category is torsion, and torsion of the omentum may occur in a hernial sac, or within the abdominal cavity. Inside the sac of a hernia, torsion of the omentum is not uncommon, and the symptoms it produces are those of some degree of strangulation, associated with the presence of an irreducible hernia, in some cases the origin of the twist may be attributed to the existence of a hernial sac, but the omentum may be withdrawn into the abdominal cavity and yet the symptoms persist. Concerning torsion, apart from the presence of a hernial sac no satisfactory explanation can be given, but it is to be observed that in all the cases reported, the tumor was in the right half of the abdomen. The symptoms are very

variable, and pain is the only one which is constantly present. Vomiting and constipation may be observed, but there may be diarrhea.

In some cases the clinical picture has been that of obstruction, with considerable abdominal distension due to reflex paralysis of the intestine. Temperature and pulse rate are usually above normal. There are no physical signs which are at all characteristic of this lesion, but in cases where the history points to hernial trouble, and an empty sac is associated with the presence of an abdominal tumor on the same side as the hernia, suspicion of twisted omentum may be aroused. In the case of torsion associated with a hernial sac, the natural course of operation will be to explore the hernia first, and the twisted omentum may be drawn down through the sac. In instances of abdominal torsion coeliotomy is indicated, and all that is necessary is simple ligature and excision of the involved omentum.

## SPLEEN

Of all the contents of the peritoneal cavity, the spleen is certainly the least liable to be at fault in what are sometimes called abdominal catastrophes, if we exclude cases of injury. We must, however, give consideration to pathological processes to which this organ is liable, and which may give rise to urgent abdominal symptoms. Such lesions are usually due to hæmic infections or to anomalies of the anatomy of the spleen. The relationship of the spleen to bacterial infection, such as infective endocarditis, septicopyæmia, and septic fevers, is an unknown quantity. It is well known that this organ affords a resting place for micro-organisms in many infections, but whether this is to the advantage of the patient or not, is uncertain, and the results of experimental splenectomy have as yet failed to afford definite information on the question.

It is important therefore, for us, and for the public in general, to become familiar with the danger of giving any kind of nourishment whatsoever, or cathartics by mouth in the presence of impending peritonitis from any cause—and peritonitis is impending in all acute abdominal surgical conditions. Opium nor any of its derivatives should ever be given before a diagnosis has been made, and a plan of treatment decided upon.

Nature—the wonderful mother has come to our help—all of the physiological forces become active in this assistance; with,

Pain we have the warning signal, the cry of distress that something has gone wrong—then why turn a deaf ear by giving opium to cover it.

Nausea—the signal that food is not desirable—

then why attempt putting nourishment into a rebellious stomach.

Rigidity—the muscle spasm forming an anterior abdominal splint—then why use violent manipulation which only increases the danger of diffusion of septic material.

Distention—the colon becomes filled with gas and acts as a coffer-dam, the small intestines from an embankment about the diseased area (if not disturbed by cathartics).

Everything is as favorable as can be for the process of repair, which consists in the concentration of the activity of millions of leucocytes in the infected area and the production of antibodies in the blood, and the limitation of nutrition of the septic micro-organism to an area in which they will soon become reduced in virulence.

Therefore, in conclusion let me say, that the earlier the acute abdomen is seen, and the earlier suitable surgical treatment is instituted, the more favorable will be the prognosis. While a correct preoperative diagnosis is important and desirable, in order to allow of the best preoperative preparation and the most advantageous incision, and also, from the viewpoint of prognosis, to say nothing of the personal satisfaction to the diagnostician, failure to hit upon the right cause of the acute abdomen is not serious compared with the seriousness of missing the most auspicious moment for intervention. This represents one of the greatest dangers in the acute surgical abdomen.

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#### Discussion

**Dr. Charles H. Magee, Burlington**—The two recommendations against the use of cathartics and morphin in these cases are particularly pertinent and cannot be repeated too often or emphasized too much. Seven out of ten men will resort to morphin and cathartics before the diagnosis is made. I commend the essayist for bringing these points before us again. Operate at once; very true. In this pathological figure given us, I would change it a little. I would bring in appendicitis, cholangitis, perforated ulcer, and perforated tube, leaving out the pancreas. He has made an attempt, and a very nice one, too, to chart the abdomen. When we come to an acute abdomen it is like getting out to sea, or in the desert of Sahara, and we need landmarks. Taking up, then, appendicitis, we remember the classical symptoms as laid down by Murphy in appendicitis and in cholangitis, and in perforation of the stomach

much the same. As to perforated tube, the first consideration in making diagnosis of this condition would be the specific history, and it would be this particular history of a woman married rather late in life, or a woman that has not had a labor for eight, ten or fifteen years, and then having some of the symptoms of pregnancy, when we would probably diagnose the condition as extra-uterine or tubal pregnancy. That brings us through to intestinal obstruction, in which condition we sometimes have a few additional landmarks. If we operate for appendicitis and simply drain, and ileus comes on afterwards, then we know where to go. If a man has hernia, that gives us a hint; also a tumor, if we can feel it, gives us a hint again. I do not know how others get along with intestinal obstruction, but to me the mortality is appalling. And I feel that I must say to these men here that if I save two patients or even one patient out of ten, I think I am doing well. Only a short time ago I operated on a patient who had been filled with cathartics and morphin. I just simply helped him in making an exit, that is all. My experience in seeing this case too late for operation to be of avail, is the reason I expressed commendation of the recommendations made by Dr. Beeh. In regard to the treatment of intestinal obstruction, we have a great many theories, but I do not believe we depart one iota from the dictum laid down by Dr. F. Treves many years ago: To "relieve the obstruction and empty the proximal bowel." I believe I am correct in saying that relief of the proximal bowel is the thing to do. If there is very much distention of the bowel I should do an enterostomy. As Morris says, get in quick, make the artificial anus, and get out quicker. If there is peristalsis I make no attempt to empty the proximal bowel at the time, for if you have peristalsis the bowel will empty itself, if peristalsis is not present the patient will die. So there you are I believe that many a man has been killed by a physician or surgeon dallying over his belly to try to find the obstruction. I stand guilty of three or four such cases. Perhaps I will learn in the course of time and following further experience along this line, but I do not know.

**Dr. Thomas Byrnes, Woodward**—The essayist has given us a very commendable interpretation of the acute surgical abdomen. Were these expressions firmly fixed in the minds of the high school surgeon and many in general practice as well, I am sure that the mortality which ranks second only to the hemolytic therapeutics as practiced in our recent past epidemic would be very much modified by the early recognition of this acute condition. It is my opinion that pain is the predominating factor in the estimation of the acute surgical abdomen. Pain is caused by the stimulation of cells in the pain column of the posterior horn of the cord by either somatic or splanchnic fibers. Then in our interpretation of abdominal pain we must trace afferent stimuli along the somatic sensory nerves and along the splanchnic sensory nerves. Pain in peritonitis is due to a stimulation of the somatic sensory fibers from the extra-



peritoneal fat. Visceral pain is due to deep sensibility impulses from hypertonic involuntary musculature being transmitted to the same second relay cells as the somatic afferents. Internal pressure or tension is the result of this muscular contraction and not the exciting cause of the pain. The skin and extraperitoneal fat sensory nerves are reflexly connected with the abdominal muscles. When stimulated in peritonitis by exudate or stretching of the parietal peritoneum, the extra-peritoneal nerves cause reflex rigidity of these abdominal muscles, the response of which may be localized and specific according to the site of stimulation. The gut wall is connected by sympathetic afferents to efferent sympathetic cells, which excite inhibition of the gut-wall. Contraction of the ureter is brought about by similar reflex. Pain occurs when the hypertonicity of the muscle is so great that impulses can be transmitted by the pain path to the cortex. These sympathetic arcs have a collateral connection with the abdominal muscles by way of the reflex through the anterior horn cells. This the visceromotor reflex of MacKenzie and rigidity of the muscles results from its stimulation. Rigidity stimulates fibers of deep sensibility and tenderness results. There is a type of case which manifests a well defined syndrome that I would incorporate in this classification; and since I have neither text-book nor reference with which to substantiate my conclusions, I beg that you accept my offering as a suggestion and not as an announcement. My conclusions are based upon the phenomena just cited, and my references are to those cases wherein we can eliminate focal infections, such as teeth, tonsils, sinuses, stomach, gall-bladder, prostate, etc., as also endocrine and blood dyscrasias. These cases are without a previous history of an acute abdominal trouble, but they might perhaps have had early in life a slight gastro-intestinal disturbance, but nothing very marked in an acute way, although this particular phenomenon I am about to cite I have noted in a number of cases. The patient will perhaps complain of a neuritis, possibly an intercostal neuralgia, or perhaps pain confined to the cervical muscles or muscles of the back. In examining this patient the feature that strikes our attention principally is the continuous hypertension, a hypertension that is a reflex phenomenon due to a vasomotor disturbance and a splanchnic engorgement. Continuing our physical examination and getting down to a point that corresponds to the junction of the ileum and cecum, we find on deep sustained pressure a crepitation that is almost audible. This condition is a reflex spasm of the ileo-cecal valve brought about by the relation of the sympathetic afferent to the efferent sympathetic cells, causing inhibition of the gut-wall. Sustained pressure at this point brings about a relaxation by blocking the paths of the peri-neural lymphatics and invariably operative measures prove conclusively the presence of some type of adhesive membrane adherent or retroflexed appendix. Our symptoms are not acute, but a condition in which hypertension is marked and in

which the output is somewhat lessened, heavily loaded with phosphates and the presence of indican. Operative measures correct this condition. Time forbids further details. In a classic paper on the treatment of inoperable cases of ileus, Dr. Escomer of Peru recommends the administration of liquid vaselin in dram doses, oft repeated, and in the irreducible cases of hernia in the old he employs the addition of pituitrin. I would ask if any one present has had experience with this line of treatment in inoperable cases.

**Dr. E. C. Junger, Soldier**—I wish to discuss the subject of the acute abdomen from the standpoint of the general practitioner in a small town. We do not all live on trunk lines and a great many of us do not have any Sunday train, and there are many week-days when we do not know whether we will have any train or not. And some of these acute cases will occur on Sunday when we cannot get anywhere or get any one to us and we are up against it. While we are general men, and supposed to be pretty good in some things, and in a general way fair in everything, still if we have too much conscience, as quoted here today, I think we will be made cowards in some respects by relieving our conscience and taking the responsibility that is put on a man in a small place that some of the men in the larger places do not have. If you will allow a personal reference, I had an acute abdomen myself a couple of months ago that came on on Sunday morning. And while it was considered wrong to use a dose of magnesium sulphate or morphin, still the trusty old nurse came up and administered magnesium sulphate to me, I promptly gave it up. Then I thought I would try the other method with the morphin and put it under the skin so it couldn't get out, and that gave me some relief. However, this is only in passing. But we have these conditions coming up, and therefore, I am pleading for the general practitioner in the small community who does not have the facilities of the larger places, where we and our patients develop pathology and cannot get anywhere and the specialists cannot get to us. We need some way of educating our people so that they will have more confidence in us, and act on our judgment, and not leave us in a place where we are afraid to divert from the regular method of doing things because we would be blamed. We would like to have some education going on through the Journal or by way of propaganda, because many doctors in these small towns do not keep up and we do not have their cooperation if results are not satisfactory, when we get so much more criticism. This is what we want to get away from so that we will have a better understanding between profession and laity and thus be of more service to the people.

**Dr. M. J. Kenefick, Algona**—The acute abdomen covers such a multitude of sins that I can not attempt to discuss this paper, but only repeat what I heard a surgeon of more than national repute say a short time ago at a medical meeting. In referring to this refined differential diagnosis of the acute ab-

domen, Dr. Jonas of Omaha said: "When I am led to the bedside of a patient with an acute abdomen, and am asked by the attending physician what is going on inside, I simply say 'I do not know.'" There has been a very scientific discussion here today on the causes of pain. That is the predominant symptom in all these cases, it is the one thing that brings the patient to the doctor, or the doctor to the patient. That is the first symptom and usually the only one that induces the patient to call in a physician. Dr. Studebaker of Fort Dodge epitomized this symptom in the acute abdomen a short time ago. A little Italian boy entered his office holding his hands across his abdomen, and the doctor said: "Tony, what is it?" The answer was, "Pain in de bell, hurt like hell."

**Dr. J. S. Weber, Davenport**—There is one type of acute abdomen we should emphasize, and that is the acute gangrenous appendix, with possibly an accelerated pulse of ten or twelve beats and no pain and no rigidity, no elevation of temperature and often subnormal temperature. It is very deceiving. Look back at the cases in which you have opened the abdomen for an apparently mild case and see how many you have found that were acute gangrenous. No one can tell how grave a case may be until he gets in. Allow me to cite a little experience just recently, the case of a physician of our city whom I appendectomized. It was one of those gangrenous cases mentioned above. The blood count fortunately showed a marked leucocytosis. It was the one factor that convinced the physician to have an immediate operation. The point I wish to make is that had there been no leucocytosis, which might have been a still more menacing condition, I doubt very much if he would have submitted. Ordinarily we lay considerable stress upon rigidity, but in these cases the abdomen may be perfectly flaccid.

**Dr. F. R. Holbrook, Des Moines**—We have had an ample dissertation on "the acute abdomen." I believe that very few mistakes are made, for most of us can diagnose those things. But what I wish to offer is a confession of faith. Notwithstanding the classical symptoms and which we all know, three years ago I was associated on a case where we all missed it, and it shows that the symptoms can be missed at times even though they be fairly well marked. The patient was taken to a large general hospital and operated on for appendicitis, and about thirty-six hours afterwards he began to develop abdominal signs; his temperature rose, he began to vomit, his respirations ran up to about 60 per minute, and we all thought he had pneumonia. This case was seen by the chief of the surgical service, a man of national reputation, the assistant of the surgical service, a man of large reputation, and six or eight lesser lights, myself included. Over a period of forty-eight hours we saw this man at frequent intervals. We sent for a consultant from the medical side to look at the case, and he said, "No, he hasn't pneumonia;" and we thought he did not know his busi-

ness. We saw that the patient had a distended abdomen, but for some reason it seemed as though that was a reflex symptom caused by the chest condition. About twelve hours later we sent for medical consultation again, this time asking for the chief of the service. He came and brought with him a number of assistants and went over the chest, and then said, "No, there is no pneumonia." In the meantime surgeons saw the case frequently. The patient died and we all gathered round the necropsy table. The condition was suppurative peritonitis caused by secondary perforation of the ileum about two inches above the attachment of the appendix. At the operation the tip of the appendix was adherent to the ileum and in stripping it off a slight piece of the peritoneal coat was torn away, and a necrotic spot developed which caused it to open up. I relate this case simply "to point a moral and adorn a tale," as it shows that occasionally the true condition can be missed even by men supposed to know acute abdomens when they see them, and who look at them thoroughly and often.

## CHRONIC COLITIS\*

C. B. LUGINBUHL, M.D., Des Moines

During the past few years, colitis has enjoyed something of a vogue, serving its medical friends, along with neurasthenia, catarrh, and a half score of other old favorites, as a convenient dump for diagnostic duds. As a result of the widespread use and abuse of the term, it has fallen into disrepute with some clinicians, who deny the existence of colitis as a clinical and pathological entity. It is not difficult to understand their objections to the term colitis, since it has been loosely applied to cover a variety of functional disorders as well as diverse pathological changes in the large bowel. This lack of differentiation has been responsible for much confusion in diagnosis, as well as for a resulting ill-advised therapy. It has accordingly seemed worth while to attempt to classify, upon an etiological and a pathological basis, the various types of functional and organic disorders of the colon usually grouped under the general diagnosis of chronic colitis.

The etiological factors are of necessity many and varied since the diagnosis covers so wide a territory, but in a general way, these factors fall easily into two groups. The first and most important cause of colitis are changes in the intestinal contents. In a second small group of cases, we have to do with infection or toxins carried by the blood stream. In the first group, we may dis-

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tinguish three rather distinct causal types of colitis: 1, catharsis colitis; 2, stasis colitis; 3, fermentative colitis. The catharsis habit has become little short of a national institution; the physician prescribes a cathartic for this or that reason, or for no reason at all save that he believes it to be harmless and perhaps useful. The patient prescribes cathartics for himself upon the same principal. In point of fact, practically every cathartic so used is an irritant; its use induces hyperemia and increased secretion. If indulgence in cathartics is only occasional, these changes are only transient, but if their use is persisted in a catharsis colitis develops. The colon becomes spastic, constipation develops, and catharsis becomes a part of the daily routine. Catharsis and constipation, constipation and catharsis become so intimately associated that the etiological role of each is difficult to determine.

Stasis in the large bowel, whatever its origin, may determine inflammation of the colon because of the irritants which are produced by decomposition. Stagnation also favors the development of an abnormal intestinal flora—sometimes abnormal in type, but more often abnormal in the enormous increase of the usual intestinal organisms. These organisms and the toxins to which they give rise are in themselves a source of irritation while the putrefactive changes for which they are responsible are productive of still further irritation. The physical habitus which favors stagnation in the large bowel, food which leaves little residue, or which easily undergoes putrefactive changes, in short, anything which favors stagnation and decomposition is an etiological factor in the development of colitis.

Fermentative colitis is of minor importance in so far as incidence alone is concerned, but it is of peculiar interest because it is so often unrecognized or misinterpreted. Here again the irritation arises from chemical changes within the bowel, the product of a peculiar fermentation. The intestinal contents may in themselves be irritant, as when the ingestion of excess carbohydrates results in decomposition and the liberation of organic acids. In fermentative colitis, there is a changed intestinal flora, so that fermentation occurs even when the use of carbohydrates is restricted.

From a clinical standpoint we may differentiate four types of colitis: 1, simple; 2, mucous; 3, interstitial, and 4, ulcerative colitis. When I say "differentiate" I would not be understood to mean that there is always a hard and fast line which separates one type from another, for in practice each type has something in common with

its fellows. Yet from a clinical and pathological standpoint, I believe that each type is sufficiently characteristic to make this grouping defensible.

In simple colitis, the pathological picture is that of a functional disorder unmarked by organic changes. There is some hyperemia of the large bowel, associated with an abnormal or increased secretion of mucus. These changes may be apparent throughout the colon, but are more commonly restricted to, or at least more marked in certain regions, as in the cecum, the ascending colon, or the rectum. Clinically, there is tenderness over the colon, sometimes abdominal discomfort, sometimes acute colicky pains; constipation is the rule, and under the fluoroscope, spastic contractions of the colon are usually, but not invariably seen. On examination of the stool a moderate amount of mucus is usually noted. This is the clinical pendant of the catharsis colitis considered under etiology, though simple colitis may also develop following the ingestion of irritants other than cathartics, in the wake of an acute colitis or an acute infection. Constipation is another important factor, both in itself and because it leads to the use of cathartics.

An abnormal or increased secretion of mucus is common to all types of colitis, but when I speak of mucous colitis, I have in mind that type of colitis in which hypersecretion of mucus is the dominant symptom. The mucus is sometimes passed in large masses; occasionally the inspissated mucus appears in long shreds suggesting helminths. In rare cases, a cast of the bowel is passed, having the appearance of a true membrane. As for the pathology, if hyperemia is present, it has taken on a more chronic form. The mucus is secreted by the goblet cells of the crypts of Lieberkuhn, and is discharged from the mouth of the gland upon the bowel wall. The existence of a constipation or diarrhoea, as well as the consistency and quantity of mucus secreted, will determine the form in which the mucus is passed. The etiology is far from clear. In this type of colitis, there is often entire freedom from pain; when the patient finally does consult a physician, the subjective symptoms are vague, not closely associated with the colon, and the history permits of no definite conclusions in regard to duration or onset of the trouble, although one gains the impression that it is of long-standing. In that type of mucous colitis in which casts of the bowel are passed during crises of acute pain, Van Noorden and his disciples believe that we have to do with an intestinal neurosis. That this type of colitis is often met with in neurasthenic and hysterical individuals does not seem to me to be con-

vincing proof of a neurosis. Colitis of any type is frequent in these patients, but the exaggerated reaction to pain, so common in these individuals, would account for the crises of pain which at first appear to set this type apart from other types of mucous colitis. It would seem that these attacks are rather exacerbations of a chronic mucous colitis, and that the difference is clinical and more apparent than real. On the other hand, if mucous colitis is a late stage of a simple colitis, there is a missing link of which we have no definite cognizance. A low-grade infection involving the epithelium of Lieberkuhn's crypts may be a factor, but no detailed study of their pathology appears available.

In interstitial colitis, there is cellular infiltration of the interstitial tissues, and proliferation may be followed by atrophy. The openings of the glands in the atrophic mucosa may become occluded, and stagnation of the secretion lead to the formation of occasional or of innumerable small cysts, the so-called colitis cystica. Possibly the occasional case of multiple tiny diverticulæ of the colon forms still another sub-type of interstitial colitis, but that, as Kipling says, is another story. The secretion of mucus is usually less abundant, the other clinical symptoms more severe and obstinate than in the preceding types.

Under suppurative colitis we must include those cases of ulceration of the colon due to some specific organism, such as the tubercle bacillus, the spirochæte pallida, the amoeba dysenteriae. In a far larger group of cases, the ulceration is due to infection with one of the usual pyogenic organisms. Necrosis of the epithelium occurs, perhaps as the result of pressure from fecal masses, and the damaged tissues are then invaded by organisms which are present in enormous numbers in the stagnating mass. Extensive superficial ulcerations may develop, and perforation sometimes occurs. Circulatory disturbances may also give rise to areas of lessened resistance which are then invaded by pyogenic organisms. Finally infected and swollen follicles may break down. In ulcerative colitis the mucus is usually, but not always blood-stained. Visible pus may also be noted, particularly when the lower part of the colon is involved.

Diagnosis based upon the existence of constipation, nausea, dizziness, abdominal discomfort, and macroscopic mucus in the stools is readily made, but unfortunately the value of such a diagnosis is in inverse ratio to the ease with which it is reached. It must not be forgotten that these symptoms are common to other diseases of the large bowel, and that the existence of colitis does

not by any means rule out other pathology, in particular malignancy. Three cases, selected from our files as typical, are graphic illustrations of possible errors in off-hand diagnoses based upon so-called classic symptoms.

A physician had been troubled for some years by abdominal discomfort after eating. More recently there had been pain, borborygmus, increasing constipation and a loss of flesh. He was well within the cancer zone, and feared carcinoma of the bowel, but recognized his diagnosis as one made of fear rather than of conviction and entered the hospital for gastrointestinal examination. The Weber test for blood on gastric contents and stool was negative; a moderate amount of mucus was present. The fluoroscope revealed a spastic colon and the absence of any mass. The stool was typical of a fermentative colitis. The catharsis habit of many years standing was broken up, and relief from the spectre of cancer and a turn about face in the matter of diet brought early and permanent improvement.

The second patient was again a physician who came in with the conviction that he had a carcinoma of the bowel. His diagnosis was based upon the presence of much blood and mucus in the stool, alternating constipation and diarrhœa, abdominal distress, and an alarming loss in weight. The loss in weight and pallor were so marked as to suggest cachexia. Again the fluroscope showed a spastic colon and the absence of any mass. Through the proctoscope, the mucosa of the lower bowel was seen to be covered with blood-stained mucus. Unlike most of us doctors, he proved to be a docile patient. Within a few months he had regained all his lost weight, and has remained in excellent health since though some mucus is still present in the stool and there is a flare-up of his old trouble whenever he falls from grace in the matter of diet.

The third case presents the reverse side of the picture. A relatively young woman of markedly neurotic type gave a history suggestive of a colitis of some years standing. There was abdominal distress, a slight loss in weight, and the stool contained blood and mucus. The fluoroscopic examination was negative except for some slight spasticity of the bowel. Through the proctoscope an early carcinoma high in the rectum was seen.

The presence of blood in the stool is never conclusive evidence either for or against colitis. Oozing of blood from the mucosa is common to most types of colitis. Fermentative colitis is the one exception, an exception which is readily understood when we recall that here the irritation is due to chemical changes in the stool as the result of fermentation. The exciting organisms are probably true ferments rather than any of the usual organisms, and never invade the bowel wall. Profuse hemorrhage in an uncomplicated colitis is rare, but may occur when ulceration is



present. Hemorrhoids and polyps are frequent sources of bleeding, but their presence does not rule out malignancy. Hemorrhoids are the rule in carcinoma of the lower bowel, and their presence calls for careful exploration of rectum and sigmoid. Polyps are always subject to suspicion because of their marked tendency to malignant degeneration.

While constipation is the rule in simple colitis, constipation often alternates with diarrhoea in the more serious forms of colitis, and in fermentative colitis and the severer forms of mucous and ulcerative colitis, diarrhoea alone is often present. Macroscopic examination of the stool is as important as microscopic. The dung-like appearance of the fresh stool in fermentative colitis is characteristic; the foaminess which becomes apparent when the stool stands for a time is even more illuminating. On careful inspection of a formed stool, the intimate admixture of blood and mucus may point to the colon as the probable source of the Weber reaction, an important diagnostic aid where the presence of occult blood might prove misleading. The coating of the formed stool with an abnormal quantity of mucus may point to the lower bowel as the affected area, while the presence of mucus within the formed stool suggests the cecum and the ascending colon as the site of trouble. If bacteriological examinations are to be made—and these are at best a difficult task—the material for study or culture is best secured from the inside of a mass of mucus.

Fluoroscopic and proctoscopic examinations are invaluable diagnostic aids to supplement clinical and laboratory examinations, but their technic lends itself more readily to demonstration than to discussion. Gross pathology of the stomach and upper bowel having been ruled out, fluoroscopic examination of the colon following an opaque enema may reveal a spasticity of the large bowel suggestive of colitis. Malignancy, except in its earliest stages, should be revealed by the fluoroscope in that portion of the bowel lying above the pelvic brim. Exploration of the lower reaches of the bowel through the proctoscope and sigmoidoscope make it possible to rule out cancer in that portion of the bowel most frequently attacked by malignancy, and may reveal the pathological changes typical of a severe colitis. When the use of an enema results in acute discomfort and pain, inflammation and spasticity of the large bowel is probably present. But always before the diagnosis of an uncomplicated colitis is given, we must rule out the gall-bladder, stomach, the upper bowel, the appendix, and other lesions of

the colon, and must remember that pathology lying quite outside the gastrointestinal tract may give rise to symptoms suggestive of colitis.

Ill-advised therapy has done as much as careless and incomplete diagnosis to discredit the term colitis. Mucus as an outstanding symptom has been erroneously considered a cause, and the attempted elimination of the mucus by catharsis and copious flushings of the bowel has increased the irritation. Colitis is no exception to the general rule that treatment should be directed to removal of the cause rather than to suppression of the effect. In the presence of irritation and inflammation in any other part of the body, the principle of securing rest for the inflamed part has long been accepted as a matter of course, yet in the presence of a colitis, it is a common practice to attempt its relief by further irritation of inflamed tissues. Stasis in the colon must be corrected, but this should be accomplished by the use of a bland anti-constipation diet rather than by the exhibition of irritant cathartics and copious flushings of the bowel. The necessity for a non-irritating diet is common to all types of colitis. Other dietary requirements vary with the individual case, depending upon the degree of irritation, the presence of diarrhoea or constipation, the presence of fermentation, and often upon complication outside the gastrointestinal tract.

#### Discussion

**Dr. Eli Grimes, Des Moines**—I wish to re-emphasize the statement just made as to the too frequent diagnosis of colitis when its actual pathology does not exist. We have under observation a large number of patients who have been treated for years for a colitis when the pathology is far away from the colon. While we will not disclaim the presence of colitis, it is well to bear in mind that it is infrequent compared to the number of cases so diagnosed. One of the important conditions back of the so-called colitis is simple irritation. I do not mean an irritant such as bad food, etc., but food intolerance of a toxic nature, this is frequently back of the condition we call colitis. The usual colitis seen in general practice is of secondary nature—due to tuberculosis, to heart disease, to renal disease, and probably more frequently to focal infection than anything else. So it is well to bear in mind that these patients who come in with pain, with mucus trouble, loss of weight, etc., are not suffering from primary disease of the colon, but that the condition is secondary to the general condition, the latter not secondary to the former. Pernicious anemia is sometimes supposed to be due to colon pathology.

**Dr. G. B. Crow, Burlington**—Dr. Adolph Schmidt put forth arguments in support of the theory that mucus colitis is of nervous origin, in this: That the amount of mucus secreted is out of all proportion to

the amount of irritation present in the bowel. On the ground that mucus is evidence of inflammation in the bowel, the amount of mucus poured out in these cases of spastic colitis is absolutely out of all proportion to the amount of inflammatory change in the bowel. Also in support of the view that mucus colitis is not of inflammatory origin, is the fact that these cases do well on a coarse diet, rich in cellulose. It seems to me that these two points emphasize the importance of the theory that the condition is of nervous origin and not of inflammatory or irritative origin.

Dr. Walter L. Bierring, Des Moines—I think we will all agree that the essayist has placed the term and the condition of colitis on a much sounder basis. There has been much abuse of the term both as regards therapy and as to diagnosis. While it is true that there are perhaps so-called functional forms of colitis, that is, there are disturbances about the abdomen attributable to the colon that are more or less associated with functional conditions, yet I am sure that in most instances when our conclusions are based on a careful examination, it will be found that there is a different basis than purely an instable nervous system. Many an instance of so-called mucus colitis comes to autopsy with very definite pathological changes. Whether you regard this condition as originally an inflammatory process or simply a disturbance in secretion of mucus, there is undoubtedly more or less fibrosis of the sub-mucosa and atrophic changes occurring in the bowel which gives rise to subsequent symptoms. There is much in what the essayist says about the etiological influence of the habits of the patient. The use and abuse of cathartics has done much to bring on bowel disorders, and therefore the intelligent conception of what the distressing symptoms signify whether due to abnormal fermentation, to a spastic condition of the bowel, or to an atonic condition, will be helpful in our plan of therapy. I am sure that every case of colitis should be treated individually, and the limitation of treatment should be recognized in each instance. If possible every patient should be placed in the hospital for a period of observation so that both the patient and the attending physician may become thoroughly acquainted with the details of the condition, and then although it may not be possible to completely relieve it, still with intelligent cooperation on the part of the patient, and recognizing the limits of the digestive ability of the patient, a great deal of improvement at least can be brought about. In that way we will treat these unfortunates really as patients, do them some good, and miss many of the mistakes that we have so often made before in considering them as neurotics, or as conditions which were not amenable to treatment.

Dr. H. J. Prentiss, Iowa City—Bearing on Dr. Bierring's statements founded on his extensive knowledge of pathology, it might be of interest to discuss the question from the anatomical standpoint. I have three very interesting cases of variations in the colon which are quite phenomenal. The first

case is not so unusual, as the large bowel did not pass beyond the right border of the liver, but just to its edge. The next case is one in which the colon had grown in such a way that it reached over to the left side and produced a complete hernia, so that the cecum, about twelve inches of the large intestine and about two feet of the small intestine were carried over into the left scrotum. On lifting the mass out of the scrotum it reached about half down the left thigh. The third case revealed a condition I had never seen: The ascending colon and the small intestine with its mesentery had fused with the mesentery of the transverse colon up to the duodenum and hepatic flexure so that there was an attachment of only two inches. Therefore when one lifted up the whole intestine from its resting place in the posterior abdomen, there was no apparent root of the mesentery of the small intestine, and the large intestine was entirely free as far as the caecum and ascending colon were concerned. Another case was one in which the large bowel, instead of passing down the left side in the usual way, had attached itself to the mesentery of the small intestine and crossed from the left side to the right and dipped down from the right side. Those are a few of the many marked anatomical variations which we find.

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#### PLAN OF THE MEDICAL AND RE- SEARCH SERVICE OF THE IOWA STATE PSYCHOPATHIC HOSPITAL\*

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LAWSON G. LOWREY, A.M., M.D.

Assistant Director of Psychopathic Hospital, Iowa City, Iowa

The history of the establishment of the Iowa State Psychopathic Hospital is well known to all of you. The authorization and legal details are to be found in Chapter 235, Acts of the Thirty-eighth General Assembly. At a previous conference the director, Dr. S. T. Orton, has told you of the general plan of organization and has especially considered the extra-mural relations of the hospital.

The hospital is administered by the State Board of Education. The representative of this board at Iowa City is the president of the State University. Directly responsible for the medical school and its hospitals (to which group the psychopathic hospital belongs) is the dean of the medical school. So much for the general administration with which I shall not further deal.

All medical activities of the hospital are under the control of the director, who is also charged with certain other duties: First, as scientific advisor to the state institutions, upon request of the board of control or the superintendents; and sec-

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\*Read at the Quarterly Conference of the Board of Control of State Institutions, March 8, 1921.



ond, as professor of psychiatry in the University Medical School, to teach neuropathology and psychiatry in the various divisions of the university.

The duties of the Psychopathic Hospital are in effect fourfold, namely:

Functions which may be described as "medical service."

1. The early diagnosis of mental disease and defect.

2. The treatment of acute and curable cases, and proper disposition of other cases presented to it.

Functions which may be described as "educational and research service."

3. Investigation into the nature, causes, treatment and prevention of mental diseases.

4. Instruction, or educative.

It is with our plan for carrying out these four functions that I am concerned today. As the functions cannot be sharply separated—the research of today forming the basis of medical practice tomorrow—and since the two sets are carried on by every person connected with the institution, I must first describe the general plan.

The work is allocated among four services:

1. The ward service.

2. The out-patient service.

3. The social service.

4. The laboratory service.

Of these, the fourth takes in most of the research functions, though each of the others will contribute largely as time goes on.

So far as their relations to the patients are concerned, these services are coordinated by the assistant director, who is therefore responsible to the director for the routine functions of the hospital. The director retains immediate supervision of all instruction and research work. The assistant director also assists with the teaching; in addition, does all the departments' consultation work in private cases; and will have direct charge of the neurosyphilis clinic, where modern methods of treatment will be carried out.

The ward service comprises two medical services; the nursing service, the dietitian's service, and the housekeeper's service.

Each medical service is composed of a "resident psychiatrist," and an "interne in psychiatry." We hope to have a definite progression for each person on the medical service. If so, each would spend one year in each post; i. e., junior interne in psychiatry, senior interne in psychiatry, junior resident psychiatrist and senior resident psychiatrist. Each resident will have charge of a psychiatric or medical "service," comprising thirty-one beds, and will be responsible for the proper

study and treatment of all cases admitted to it. He will also serve as instructor in psychiatry in the medical school. He will train the interne assigned to the service, and direct his work.

The two medical services will be responsible, between them, for the operation of the pharmacy and clinical laboratories and of three special treatment departments; namely, hydrotherapy, electrotherapy and occupation-therapy. The equipment for each of these will be amply sufficient for the needs of the institution.

The pharmacy and clinical laboratories together will occupy one double room on the first floor of our central building, opposite the offices of the physicians. Hydrotherapy will be carried on in the wards, where facilities will be provided for giving prolonged baths and various types of packs, and also in special hydrotherapy quarters in the basement of the east wing. Here will be provided a large room for the douches and the various kinds of partial baths; a steam room and a massage room. This hydrotherapy equipment is near the out-patient quarters and may be used for out-patients as well as house cases.

The electrotherapy equipment will occupy a small room on the first floor of the main building where it is accessible for both sets of wards and for out-patients. The modern forms of electrotherapy are, to a large extent, unknown quantities in the treatment of mental cases. Twenty years ago many hospitals put in up-to-date electric plants for that period, and in most cases have discarded them. However, modern developments in the application of electricity to the treatment of all forms of disease make it worth while to re-study their possible effects in association with *certain types* of mental disorder.

Occupation-therapy will be carried on under the direction of a skilled teacher, chiefly on the wards, in certain pleasant situations which are available for such work. With the development of the department, its larger apparatus and stores will be housed in either two or three rooms, as may be necessary, in the basement of the west wing. We hope to avoid one of the errors which often creeps into the management of a department of occupation-therapy in larger hospitals—namely, that of focusing attention upon those workers who are most cooperative and able to produce articles of economic value. This tends to stress the economic aspect of occupation-therapy to the detriment of its therapeutic side. The patients, we should like to reach with occupation-therapy or with the type of exercises developed by Dr. Donohoe and Dr. Bryan at the Cherokee State Hospital, are not the workers, but

those who have fallen into bad habits of activity and are regarded, often erroneously, as hopelessly deteriorated subjects, fit only for the back wards of the hospital. To be sure the chances are that we shall never have a patient for a sufficiently long time for such habits to develop, but we hope to do what we can to stave off any such untoward trend in our patients.

Five of the six wards will have women nurses in charge; one ward for disturbed men will have only men nurses on it, according to our present scheme; and the reception ward for men will have a woman graduate nurse in charge with male assistants. The convalescent men's ward will have only a woman; the women's wards will be entirely staffed by women nurses. It is our plan at present to have the night supervisor a woman with a sufficiency of men nurses on duty on the men's wards to care for any situation that may arise. We hope to be able to employ graduate nurses throughout the hospital, and to fill in the number necessary to carry on a proper nursing service with pupil nurses from the University Hospital. We expect to offer a post-graduate course in mental nursing for any who may desire to take it. Our idea in nursing, as in the medical service in general, is the application of general hospital standards and methods to our group of cases. This means going far beyond a custodial policy and considerably beyond the ordinary general hospital nursing service into the sort of nursing service which the large state hospital procures from its older and more valuable nurses.

The kitchens and food service will probably be under the direction of a dietitian. The food service in the hospital is admirably planned. Everything is cooked in a central kitchen and all food is delivered to one place in each wing where it immediately goes on to steam tables. It will be served from this central location to a diningroom in which all patients, who can go to the diningroom, will be fed; the remainder being fed from trays which are prepared at the food service room. In case the food preparation and food service is under the control of the dietitian we shall probably make the superintendent of nurses responsible for the housekeeping service, which will care for the wards, the basements and the central building, including the laboratories and sleeping quarters. Sleeping quarters are provided in the building for six people. These are the resident psychiatrists and the internes in psychiatry, who will occupy four of the six rooms. The other two rooms are then available for visitors, and particularly for physicians from the state hospitals who desire to spend from one to

three months, or more, working in the wards and laboratories of the hospital.

The laboratory service consists of a group of six departments, each having a definite and direct connection with the ward services concerned with individual patients, but each having separate and distinct research functions which deal not only with the individual cases, but also with groups of cases and with larger problems than the problem of diagnosis and treatment in the individual patient. These departments, each of which will have a competent man in charge with as much assistance as becomes necessary, are chemistry, pathology, serology, roentgenology, psychology and physiology. Dr. Orton will probably retain direct command of the department of pathology, including anatomy. The assistant director will oversee the work in bacteriology and serology. It is probable that the roentgenologist of the university hospital will be asked to give general supervision to the x-ray department. A psychologist has been appointed in connection with the graduate school of the university, and will draw part of his salary from the university and part from the hospital. A physiologist is in process of being appointed on the same terms. A chemist has not yet been secured.

This laboratory service then is designed to carry on the major research functions of the hospital, at the same time making a direct and valuable contribution to ward service and to the out-patient service.

The social service will have several important functions; in assisting the physicians to procure the necessary data for diagnosis, in follow-up work on cases discharged to the community; in relation to the out-patient service, and particularly in relation to a mobile unit, which we hope to have, consisting of a social worker, a psychologist, and psychiatrist. This unit would hold out-patient clinics in various cities and towns of the state, and investigate any particular local problems brought to the attention of the hospital by various governmental agencies.

For the present, the out-patient psychiatrist will be drawn by turns from the house service; as the out-patient department develops and the demand for such service becomes greater, we expect it will be necessary to put one man in charge of the out-patient department with a social worker and a psychologist especially assigned to it. How soon it will be necessary to do this is a question we cannot answer at the present time.

This, then, is the general plan of organization. What of the plan of service? Our experience in



small and crowded quarters has indicated an active demand throughout the state for the type of service we wish to give. As Dr. Orton has said, "We do not wish to duplicate state service as it already exists, but instead wish to supplement it." It is true that we will unquestionably receive many cases which could equally well go direct to the state hospital.

Experience at the Boston Psychopathic Hospital indicated a well defined field of activity not reached by the state hospital, since only about 40 per cent of the admissions there were later committed to a state hospital. In other words, something over 60 per cent of the cases were not cases for the state institution or recovered from their acute attack with a short period of residence in that hospital. This means, in terms of patients, that about 750 patients per year were committed from the psychopathic hospital to the district hospitals, and about 1250 cases per year were returned to the community. The result is that the Boston Psychopathic Hospital can offer a diagnosis and advice service to a large group of patients who would not be presented at the district state hospital for such service.

As already stated, our limited experience of the past seven months indicates a considerable demand for this type of service in this state. An interesting point is that 64 per cent of our admissions have come voluntarily to the hospital for examination, diagnosis and advice. We have been able to do very little in the way of treatment because our quarters are small, unsatisfactorily arranged, and the demand for service so great that we have not been able to keep patients for a period of time adequate for treatment.

Our plan is to bring to bear upon every case all of the methods that have found a place in medical diagnosis. We are fortunately situated in that we can call upon the various departments of the medical school for examination and treatment of any conditions which fall within their fields of activity. One of our residents is especially interested in psychotherapy.

Therefore, we expect to do intensive and extensive work on all patients coming to us, or reached by our out-patient services; to study the origin and treatment of mental diseases from all points of view, organic or functional; to study them particularly from the standpoint of the organic factors. From such studies we hope to derive information of value for the prevention of such disorders.

## PHYSICIANS WHO LOCATED IN IOWA IN THE PERIOD BETWEEN 1850 AND 1860

D. S. FAIRCHILD, M.D., F.A.C.S., Clinton

### DR. ARCHELAUS FIELD

The early life of Dr. Archelaus Field was characterized by extreme privations and strenuous exertion. Grubbing hazel brush for a garden spot with a hatchet, trapping musk rats and ground hogs for their pelts; the former sold as fur, the latter tanned in wood ashes and water and soft soap, cut and braided into whip lashes and sold for revenue; planting and hoeing corn from seven a. m. to sundown for 25 cents a day; milking two cows all summer for their two calves which he trained to be oxen, walking three miles a day and return to school; teacher's certificate to teach English branches and pedagogy at fifteen; reading medicine and toting medical saddle bags with some degree of success and popularity at twenty, are some of the outstanding incidents in a life that providentially has been extended well past its ninety-second birthday.

He was born November 15, 1829, his father being Dr. Abel Wakely Field, a native of Bennington, Vermont; and his mother Zilpha Witter Field, a native of Ontario county, New York. He was the eldest of three brothers, all of whom reached manhood. His brother Orestes G. having been a distinguished surgeon of the War of the Rebellion, and the youngest, Captain James W., still living, a retired capitalist of Marysville, Ohio.

In 1839 his parents removed from Ontario county, New York, to Madison county, Ohio. His first occupation was that of planting and hoeing corn for a neighbor farmer for 25 cents a day from early morning to sundown. There were no walking delegates in those times. His first commercial transaction was with his father, whereby he agreed to milk two cows all summer and winter for their two calves. These calves were his first team. He made his own sled and ox-yoke, and has a scar on one of his shins where he was hit by a drawing knife in smoothing the tongue of his sled. He also bears another scar in one of his eye-brows where he was hit by a refractory hickory stick which he was bending for an ox-bow.

His first real nice suit of clothes was made up by his mother. He paid 18 cents a yard for cloth for the coat, 37 cents a yard for cloth for pants, both blue check, 7 cents for calico to make a vest, and 60 cents for silk for a cap.

Between the ages of twelve and twenty years he attended academies at West Jefferson, London and Worthington, always hiring a room and boarding himself, teaching and working on a farm at intervals. At fourteen he raked and bound wheat and oats, keeping up with the cradle through harvest—a man's work. His employer, Judge Burnham of West Jefferson, Ohio, made him a present of five dollars at the close of the



A. G. FIELD M.D., L.L.B.

season, this being the first substantial present he ever received. At the age of fifteen he secured a certificate for teaching the English branches, which certificate he still has, dated April 7, 1845. He also has his last certificate for teaching, dated Chillicothe, Ohio, October 31, 1849. In addition to common branches this latter certificate included algebra, natural philosophy, chemistry and astronomy. All of his traveling was done on foot, and four days and three nights were consumed on the road between Frankfort and Chillicothe, with intensive study of the branches upon which he was to be examined. The examiner's name was Wm. B. Franklin, and the examination was brief and satisfactory, he receiving a certificate for two years. His school was to begin in two weeks, and he returned home to Madison county for a short visit, after which he started for school with

his belongings in a small wooden trunk two feet long and one foot square. He does not remember any test of physical strength and endurance equal to that of transporting this trunk, which he still has. Its position was changed hundreds of times from beneath one arm to the other, and from the top of one shoulder to the other, during this journey over muddy roads and part of the time in the rain. He also has the trunk which contained his entire possessions when he came to Iowa in 1849.

In June, 1850, he joined a company of emigrants from Madison county, Ohio, to Appanoose county, Iowa. There were eleven wagons and about thirty people. The new experiences were much enjoyed by all, although an unlucky grasshopper occasionally got into the biscuit and marauding spiders into the blankets. But the mode of traveling finally became quite monotonous, especially over the miles and miles of corduroy bridges through the black swamp of Indiana. A flat ferryboat at Burlington made several trips to land the party on Iowa soil. New inspiration came to all in the invigorating atmosphere of Iowa, having been on the road six weeks.

Most of the party settled in and about Centerville, where the subject of this sketch nailed up his shingle for practice. People were healthy, and as there were plenty of older doctors, he had but few calls. In the early spring of 1851 he was appointed deputy sheriff of Appanoose county, and in that capacity assisted in taking the census of a large part of Appanoose county.

A little later the county seat of Wayne county was to be located, and George W. Perkins, surveyor of Appanoose county, was appointed as one of the locating commissioners. Before starting Mr. Perkins invited the subject of this sketch to accompany the party, and, without asking why he did so, he at once joined the expedition. There were very few families in Wayne county at that time—probably not over six or eight, and none nearer than four and one-half miles from the center of the county. The best part of a week was spent in riding over the wild prairies, occasionally molesting a herd of deer or a flock of wild turkeys or prairie chickens. Finally, when selection of a location had been made, Mr. Perkins wrote on a piece of paper the numbers of the land for the future county seat, now Corydon, also the numbers of two eighties, one east and the other south of the proposed town site. He said the commissioners would start immediately for Fairfield to enter the selected town site, and suggested that Dr. Field go too, but by another route, and try to secure the two eighties of which he had given him the numbers. This he did, although he



had less than a dollar in excess of the amount required to pay his necessary expenses. Bernhard Henn was then commissioner of the land office. Dr. Field did not wait for the commissioners; a good horse solved the problem. He reached the land office more than a day in advance of the commissioners and made a confidante of Mr. Henn, to whom he had no word of introduction. Mr. Henn accepted the statement of the dust-covered stranger and at once placed a land warrant on the proposed town site, lest the commissioners might be intercepted by some speculator. He then placed another land warrant upon the two eighties for Dr. Field, accepting his note for two hundred dollars and giving him a bond for a deed in one year, dated May 11, 1851. The commissioners arrived the day following to find the town site secured.

Returning to Centerville, Dr. Field was offered a partnership with Dr. Nathan Udell of Unionville, afterward state senator. This engagement was soon terminated by the accidental death of his father, Dr. Abel W. Field, on the twenty-first day of August, 1851. He returned to Ohio and at once took up the practice left by his father. The following spring he returned to Iowa to pay for his land and to look it over. The trip was made by deck passage on a steamboat via Cincinnati, Cairo and Keokuk, furnishing his own provisions. He took the railroad from Columbus to Cincinnati, and from and to Keokuk he went on foot by way of Mt. Pleasant, Bloomfield and Centerville.

In the autumn of 1853 he entered the office of Prof. John Dawson of Columbus, Ohio, matriculated and paid for tuition for the session of Starling Medical College in 1853-4, and graduated the following spring, three years' practice being accepted in lieu of one course of lectures. To provide means to start again he had engaged a school in Brown township, Franklin county, and as soon as examinations were over went again into the schoolhouse for one term. In the spring of 1854 he located in Hillsboro, Highland county, Ohio. He secured a fair practice, but collections were slow and insufficient to meet his necessary expenses. He sold his buggy and a few months later his beautiful black horse to meet expenses. The parting with Cola was, Dr. Field says, the severest trial of the kind of his life.

In June, 1856, he formed a partnership with Dr. Buchanan in Faircastle, Brown county. Dr. Buchanan, like many other drunken doctors, had a reputation far above his merits. Dr. Field had nothing but energy, health and fair qualifications, while Dr. Buchanan had reputation, horses and business. Dr. Field worked his business for all

these was in it until the autumn of 1856, when he paid what debts he could, reserving twenty-four dollars, called a meeting of creditors at Mr. Hibben's store, and told them he thought it best for all concerned that he try another location. They all gave their consent. No one asked where he was going and he did not know himself.

He then went to Cincinnati and called upon Prof. Wm. Dawson, brother of his preceptor. Dr. Dawson advised him to go south. Leaving his books, diploma and everything else at Hillsboro (which no one had asked him to do), he took the first train to Louisville. Leaving his satchel at a hotel, he walked toward the river, where he saw a sign on a steamboat which read: "Tennessee River This Evening." He returned to the hotel, got his satchel, which contained an overcoat, one shirt and a change of under-clothing, and went on board the boat. The captain said they would go to Eastport, Mississippi, and farther if the stage of water would permit. Dr. Field paid his fare, ten dollars, and had less than ten dollars left. Night came on, and every "thud, thud" of the old steamboat widened the distance between him and every one he had ever known. That was a pretty dark night! About the fourth day Eastport landing was reached. The town was about two miles from the landing, and there were plenty of conveyances; but Dr. Field took his little carpet sack and footed it. Cypress trees with big knees, bales of cotton, mules and ox teams, old tumbledown wagons, scantily-clad negroes, sand roads with no sidewalks, were among the first sights. Every man was clad in seedy homespun, and carried a gun. Dr. Field learned that Jacinto was about thirty miles distant, that it was the county seat, and that a stage would leave at seven p. m. He paid his fare, four and one-half dollars, and while waiting chanced to step into a drug store. The druggist, Dr. Klice, was very busy filling vials with a dirty-looking mixture labeled "Essence of Tar—A Cure for All Summer Complaints." Dr. Field opened a vial, and after casual examination the druggist asked if he could tell what it was made of. Dr. Field replied that creosote was the active principle, with solution of extract of licorice and aromatic oil. He said, "You are a doctor." Dr. Field replied, "Yes, I am a sort of doctor." Nothing more was said, but in about half an hour he introduced a man whom he said had had sore eyes for a number of years, and asked Dr. Field to prescribe for him. Dr. Field asked permission to go behind his counter, compounded a prescription and gave him a treatment. The patient, one Rutledge, asked for the bill. Dr. Field held his breath while he said, "five dollars,"

having never charged over 50 cents in his life for a prescription. Rutledge paid it with an air that indicated that it might have been twenty.

Dr. Field now had about eight dollars. The stage station at Jacinto was reached the next morning. Dr. Field told the landlord, Robert Davenport, that he was a doctor and had come to live there, but he did not have a medical book, a dose of medicine, or anything else to identify himself with the profession. Everything, even spare clothing, had been left at Hillsboro. The same afternoon the landlord asked him to prescribe for his mother, who had some affliction of the throat. Next day a summons came from a doctor to visit one of his patients with him. The woman had retained placenta after delivery. Dr. Field called for a pan of warm water, and in five minutes removed the source of trouble. He had another call the same evening, two or three the next day, and from that time on had plenty of business.

The horses were of poor quality, but every one was willing to loan a horse to the young doctor. After about three weeks he saw a man riding a fine large horse across the public square. One of his patients was a dry-goods merchant by the name of Jim Dobbins. He said to him: "Dobbins, I saw a horse today that I would like to have." Describing it to Dobbins, the latter said: "That is Gillenwater's horse." Nothing more was said until the next day, when Dobbins came to the hotel and said: "Doc, I have got that horse for you." Dr. Field replied, "I am sorry, for I have nothing to pay except a silver watch and six dollars in money." Dobbins answered: "All right. I will take your watch on the deal, and you keep your money." Dr. Field took the horse, and in six weeks paid Dobbins the last of \$150 for him.

Business increased beyond expectations, and Dr. Field saw no patient who died, either his own or in consultation, until after he had done over \$1300 worth of business. He was careful to attend strictly to his own business without reference to local social or political conditions. Northern teachers and preachers going south had usually shown aversion to local affairs, especially to slavery. But Dr. Field cut out everything of the sort and, without taking any position on such matters, even when artfully suggested by negroes, soon had the unstinted friendship of every one. In about three years he had a nice plantation of 240 acres containing an extensive peach orchard, another of eighty acres, town property in Booneville, ten miles distant from Jacinto (where he kept an extra horse for exchange), had paid off his old debts in Ohio, sent money regularly to his

mother, and says he never knew what disinterested friendship was until he went south.

But the war cloud was rising in the horizon, and Dr. Field thought it best to return north. In March, 1859, he returned to Corydon, Iowa, visiting his mother in Ohio on the way. Property accumulated in Mississippi was about three-fourths sacrificed in exchange for wild land in Crawford county, Iowa. He soon had a good practice at Corydon. In 1860 he was elected president of the Wayne County Agricultural Society, and so incidentally became a member of the Iowa State Board of Agriculture, a meeting of which he attended at Des Moines during the winter of 1861, stopping at the Grout House in East Des Moines, kept by T. E. Brown and his father-in-law, Mr. Marsh. The topography of the city, with bottom grounds at confluence of the rivers, surrounded in every direction by the well-shaded hills for residences, was to his mind very beautifully adapted to the requirements for a city, and before leaving he had decided to make it his future home. Thither he removed in July, 1863, but soon left for New York for its professional and educational advantages. At that time the elder Austin Flint, James R. Wood, Frank Hamilton, were in the Bellevue faculty, Valentine Mott, Sr., in the University of New York, and Alonzo Clark, Thomas H. Marcoe and Willard Parked in the College of Physicians and Surgeons, medical department of Columbia University. To hear these celebrities Dr. Field matriculated at all three of the above-named medical colleges, his diploma exempting him from paying fees for tuition. From the last-named institution he again graduated in the spring of 1864. The class of 250 consisted largely of graduates of other institutions, M.D., A.B. or A.M. Dr. Field's name was presented at a class meeting as candidate for valedictorian. His opponent was Jas. H. McClain, afterward elected to the chair of practice and president of the faculty. He was defeated by a majority of seven votes, and this defeat Dr. Field always regarded as one of the most flattering as well as most fortunate incidents of his life, because had he been elected he could not have met the expectations of the class.

While in New York he was also a student in Bronson School of Elocution in Cooper Institute.

Returning to Des Moines in May, 1864, Dr. Field secured office rooms in the Savery Hotel, now the Kirkwood, just opposite the hotel office, where it took him seven months to discover that the rank and file of citizenship in a city, such as a doctor must depend upon for patronage, is not reached by an office in a big hotel. He then had



an office built on leased ground on Third street near Court avenue, and soon had a satisfactory patronage.

W. H. Lease, a gentleman and a scholar, was then mayor. The medical men were Drs. C. H. Rawson, H. L. Whitman, W. P. Davis, Isaac Windle, W. H. Molesworth, W. H. Dickinson, W. H. Ward, A. M. Overman, J. O. Skinner, Geo. and Frank Grimmel, David Beach, D. V. Cole, T. K. Brooks, H. H. Saylor, S. A. Russell, etc. Drs. Hanawalt, Wiley, Cox, Grimes, Carter, Steel and others came later. Dr. Field sold his office to the Western Stage Company. Third street was noisy all night by the arrival and departure of 100 stages, more or less, from all points of the compass. The building still stands and is one of the second-hand junk shops on Third street. After some years the ground was needed for larger buildings and the office was moved to Mulberry street, west of Thirteenth street, and sold for a residence.

The population of the city was about 7,500. The first one-horse express wagon was brought by a man named Davis, who distributed hand-bills announcing the fact. About a year later a number went out east where the Redhead residence now is to meet and welcome the first railroad, now the Keokuk division of the Rock Island.

Rev. Thompson Bird, a typical Presbyterian minister, had organized the Presbyterian church. Will Lehman worked the organ and Major Geo. North led the choir, in which were Louisa Bird, now Mrs. Hyde, Pauline Given, now Mrs. Al. Swalm, and a number of others whose names are forgotten. The major often had some difficulty to preserve good order. The frame church building stood north of the first alley south of the Savery House, now the Kirkwood, and a nice distance back from the street. Mr. Bird said it had been built mostly by his own church members. While not pretentious, it was good and ample for the time. It was destroyed by fire. Mr. and Mrs. A. Newton, Mr. and Mrs. West, Mr. and Mrs. C. P. Luse, Mr. and Mrs. Tac Hussey, were among the members. Dr. Field had brought a letter from Dr. Steel's church in Hillsboro, Ohio, and became a member. The congregation soon after became desirous for a change of ministers, some claiming that Dr. Bird's delivery was not good. With deep regret and sorrow Mr. Bird finally resigned and Dr. Field took a letter to the Congregational church. Mr. Bird's church had all sorts of trouble to find a minister to their liking. There were a number of meetings to consider different candidates. At one of these some one proposed a name with the remark that no one

here knew anything about him. Dr. T. K. Brooks at once said, "That is the man for us. We want a man that no one has ever seen or heard of."

In 1865 Dr. Field was elected city physician, and in 1866 physician for Polk county, and as such had incidentally something to do in locating and establishing the present county farm and county infirmary. In 1866 he was also appointed U. S. examining surgeon for pensioners, in which office he continued, either singly or as secretary of the board of examining surgeons, for eight years. Upon resignation he was appointed upon the board of review in the pension department in Washington, and removed to that city in 1882. He resigned as a member of the review board to continue his work in the Keokuk Medical College, having been elected to the chair of physiology and pathology, where he had given one course of lectures the year previous, by government rules not being allowed to hold two lucrative positions at the same time. His rating in the department at Washington was so high that he thought he would be restored any time he should apply. In this he was disappointed. In 1885 some dissatisfaction between the faculty and management of the Keokuk Medical College resulted in withdrawal and establishment of another college. There was, of course, considerable feeling manifested on both sides, and Dr. Field withdrew entirely from both. He was elected secretary of the Iowa State Medical Society in 1869, 1870 and 1871, and in 1872 was elected president. In 1876 he was elected by the Iowa State Medical Society delegate to and attended the International Medical Congress in Philadelphia. He was twice elected by popular vote mayor of the town of North Des Moines, and during both terms the affairs of the town were conducted without a law-suit or a dollar bonded indebtedness. In 1868 he was elected coroner of Polk county, and in 1878 treasurer of the Forest Home School District, which position he resigned while in Washington.

In 1864, the Savery, now the Kirkwood, was a large hotel for the City of Des Moines. All its appointments were of the best and its social circles were of high order. The "wee small hours" of the night were frequently encroached upon by protracted social enjoyment, and "battle cry of freedom," in which all joined at intervals, echoed through the spacious halls. These gaieties were sometimes rather too florid to meet the approval of the staid dignity of Ex-Governor R. P. Lowe, then supreme judge, who on one occasion, retired early to his room and locked the door.

Mrs. J. C. Savery, being the most wieldy of the crowd, was pushed in through the transom over the door and the judge was compelled to emerge and resume his place in the circle. Major Cavanaugh, E. E. Ainsworth, George Gardner and a score of other good fellows were then denizens of the Savery.

Dr. Field has been an active member of various medical and scientific societies, including the American Medical Association, American Society of Microscopists, American Association for the Advancement of Science, etc. Charter member Iowa Academy of Sciences. He is also a member of the Iowa State Bar Association, having taken a course in the law department of Simpson Centenary College and received the degree of L.L.B. in 1879, at which time he was also admitted to the supreme court, but never engaged in the practice of law.

In 1869 he invented an instrument for impinging the spray of medicinal substances directly upon the mucous surfaces of canals and cavities, illustrated and described in the May Number, 1869, of the Medical and Surgical Reporter, Philadelphia. Some other publications are as follows:

"Report on Spotted Fever," Transactions of American Medical Association, 1865; "Hernia in Children," New York Medical Record, September, 1869; "Anomalous Human Head," St. Louis Medical and Surgical Journal, March, 1867; "Medical Aspect of Iowa," Chicago Medical Journal, March 22, 1867; "Decapitation at Transverse Presentations," New York Medical Record, April, 1868; "History of Medication by Atomized Medicinal Substances," Report to the American Medical Association, 1868; "Puerperal Convulsions and Glycogenesis," Clinic Cincinnati, Ohio, April 1874; "Present Attitude of Medical Science," president's annual address Iowa State Medical Society pamphlet, 1872; "Elimination in Disease," Northwestern Medical and Surgical Journal, St. Paul, April, 1874; "Mildews on Grapevines," Iowa School Journal, July, 1874; "Physiology and Hygiene as a Branch of Popular Education," report of committee, Iowa State Medical Society, Sanitarium, New York, September, 1875; "Cellars and Diphtheria," New York Medical Record, December, 1875; "Doctors and Newspapers," before Iowa State Medical Society, rejected, Tilden's Journal of Materia Medica, New York, January, 1876; address before annual meeting of the Iowa Association Railway Surgeons, Railway Surgeon, November, 1903; "Criticism of Brown Physiology," slip to school board, Des Moines.

In 1895 he devised a "Musculotension Meter" to determine the extent of softening of muscles in paralyzes, manufactured by Truax, Green & Co., Chicago, Journal of American Medical Association. In 1889 he devised a universal stand for

microscopy, photo-micrography and copying, illustrated and described in Photographic Mosaics, New York, 1890. In 1897 he successfully photographed through a six-inch Clark telescope a five-inch image of the moon, showing mountains and craters in considerable detail, without the aid of any special lens or other accessory except a box camera; Popular Science, New York, January, 1898. At the meeting of the American Medical Association in Baltimore, 1895, before the ophthalmic section, and also before the Columbus meeting of the American Association of the Advancement of Science, he read a paper on "Bright Light in School Rooms a Cause for Myopia," with proposed remedy and means for measuring the intensity of light in school-rooms. This paper was an attempt to show the fallacy and damage of the popular doctrine that "the more light in the school room the better," and that the abuse or careless use of such bright light, together with near vision, are responsible for a very large per cent of the myopics who emanate from the schools. The subject was illustrated by a rectilinear photographic lens, to show that back focus recedes with reduction of the diaphragm. The stimulus of bright light contracts the iris and thus reduces the pupil or diaphragm of the eye, thereby elongating the eyeball. Near vision does the same thing, and the persistent strain thus placed upon the accommodative apparatus results in the immobility which constitutes myopia or near sightedness, which being long continued as in school room work, overcomes the natural elasticity of the accommodative apparatus, and permanent and incurable myopia results. The intelligent and careful use of proper shades to modify the light, and free use of distant vision by blackboard exercises, are recommended as preventatives. Published in the Journal of American Medical Association, September 21, 1895; also synopsis in Popular Science, New York, July, 1895.

He began experiments in photo-micrography in 1883 and is one of the pioneers in that line of work. Of late he has given considerable attention to the microscopy of the natural sciences, including biology, histology, bacteriology, etc., and it was with a view to popularizing that line of work that the Des Moines School of Technology was organized in 1884, which has not yet been pushed to success. At various times he has appeared before medical and scientific societies, illustrating the subjects treated of by photo-micrographic lantern slides of his own production, in which line of work he has acquired a considerable degree of proficiency.

In May, 1877, he married Hattie Weatherby,



daughter of Edmond Weatherby of Cardington, Ohio, born in Seneca, New York, and Orrel Sawyer Weatherby, a native of Yates county, New York. Three children have been born to the union, Dalton Arthur, born December 19, 1884 being the only survivor, who is manager of a large fruit association in California.

In religion Dr. Field is Calvinistic Presbyterian; in politics a prohibition republican.

Dr. Field has been no small factor in the building of Des Moines. He located and gave the ground for Eleventh, Twelfth and Thirteenth streets from University avenue to Forest avenue. He has built more than a mile of paving, more than a mile of sewers, more than a mile of sidewalks, more than a mile of curbing at an outlay of more than sixty thousand dollars. In addition he has built nineteen good eight and nine room houses that are among the good residences of the city. They are well shaded by old gigantic elms, some of which have a circumference of fourteen feet three feet from the ground, and with branches that spread more than eighty feet. By buying small places north of North street he has been enabled to locate and establish Eleventh, Twelfth and Thirteenth streets to Forest avenue. All this he has done single handed and alone and without misunderstanding or controversies. In business he has been careful to have a clear understanding to deal only with those of good business reputation and to be always ready to perform his part of the contract to the letter.

Retrospectively, Dr. Field can say that if he could live his life over again the chances are that on the whole he would not be likely to do better. While he is conscious of having prolonged some useful lives, he is conscious also of many shortcomings in which he did not do his best, and in which he might have been more kind and considerate to his friends and to those near and dear to him; and he is not unmindful of the scores of noble and faithful horses that in seventy years of active life have been helpers and in hundreds of instances his only companions.

#### DR. WILLIAM WATSON

William Watson, M.D., for almost half a century one of Dubuque's most prominent physicians, was born in Leeds, England, May 14, 1826. He was the son of Joseph and Ann (Metcalf) Watson. When he was a year old the family immigrated to the United States, settling in Middletown, Connecticut. Four years later the Watsons, removed to Onondage county, New York, where they remained until he was eighteen years of age. Here he received a common school edu-

cation. In 1844, William hearing the call of the West went on alone to Ohio where he taught a district school. Soon moving on however, he took a lake steamer one sunny spring morning and came to Beloit, Wisconsin, settling on a farm some sixteen miles from that frontier town. After working hard for two years at the carpenter's trade, which he had managed to learn back East, he saved sufficient money to provide for himself the opportunity of attending the Beloit Seminary for one year. This year of schooling was indeed a happy one for our subject for working at his trade mornings and evenings and Saturday afternoons, he combined with the space of a single day the experience that comes not only from the study of books, but also from the wider fields of actual labor among men of many classes. Two years after his first arrival at Wisconsin, Watson's father came to join him in the new region.

In 1849, Watson commenced reading medicine in the country and twelve months later went back to Beloit to read with Dr. E. L. Clark. The following winters in 1851-2 he attended a course of lectures in Rush Medical College, Chicago. With this preliminary medical education he began the practice of medicine in the small town of McGregor, Iowa, the first physician to locate at that place. Eighteen months later with the stern experiences of the early doctor picked up amidst the hills of McGregor he attended a second course of lectures at Rush Medical College, graduating with honor in February, 1854. Two months after his graduation he came to Iowa and according to his own statement "stuck out a shingle in Dubuque in 1854." After a few months in Dubuque, Dr. R. S. Lewis, at that time a prominent physician of the city, recognizing his worth both as a physician and a man, formed a partnership with the energetic young doctor and that partnership was dissolved only by the death of the white-haired Lewis on the tenth of September, 1859. From that date Dr. Watson was always alone in practice and rapidly built up a medical business the equal of many of our leading physicians or surgeons of the present day. No man in Iowa has been more assiduous in the duties of his profession.

With the outbreak of the Great Rebellion, William Watson hearing the call of his country entered the army as a surgeon of the Eleventh Iowa Infantry on the 20th of October, 1861. On March 4, 1863, after active service on the field he resigned from this post to accept the position of assistant surgeon of United States Volunteers under appointment of President Lincoln and was

immediately commissioned by the secretary of war for responsible hospital duties at Memphis, Tennessee. In August of the same year he was placed in charge of the Jackson hospital, the next month was promoted to surgeon of volunteers and ordered to Louisville, Kentucky. In February, 1864, he was placed in charge of the Crittenden Hospital and thirty days later sent to Rock Island, Illinois, to take charge of the post and prison hospitals located there. It was an important assignment, requiring great diplomacy and tact. He remained in charge at Rock Island until mustered out on the twentieth of October, 1865. Returning to Dubuque he received a brevet commission of lieutenant-colonel leaving the army with a truly bright record. Governor Kirkwood when he entrusted the care of a regiment to Dr. Watson made no mistake in his man for later we are told that if there was a place where disaster had caused an accumulation of sick and dying or if lack of foresight had failed to arrest the spread of disease, or to provide for the wounded, it was to Medical Officer Watson they turned with confidence for assistance and support.

In politics Dr. Watson was a democrat until the republican party was organized, at which time he changed his view and clung tenaciously to the latter party. He never sought office. The doctor was an Odd Fellow and was a representative to the Grand Lodge on numerous occasions. He was a member of the Dubuque County Medical Society and of the State Medical Society and served as president of both. He was a president of the State Medical Society in 1868 when it held its first annual meeting at Des Moines. He served as delegate to the International Medical Congress which met at Philadelphia, in 1876. As a parliamentarian in the Iowa State Medical Society he was a recognized power. His knowledge of the constitution and by-laws of the State Society, keen analysis and recollection of yearly amendments, has probably never been equalled. In the meetings of the American Medical Association, Watson of Iowa, when he arose to speak needed no introduction. In this state Dr. Watson is especially remembered for his sterling worth as a man, for his keen enthusiasm in his work, splendid memory and general prominence in affairs of the Iowa State Medical Society. He has written a number of valuable historical sketches of some of the lives of the early pioneer physicians. For years he remained the nestor of the Dubuque County Medical Society.

Dr. Watson was first married in Portland, Maine, in November, 1860, to Miss Lucy Giddings, who died on the 13th of March, 1862, leav-

ing one child, Fred. He was married a second time on the fourteenth of September, 1868 to Miss Lucy F. Conkey of Dubuque. He remained in active practice in Dubuque until 1901. Since then, and up to the time of his death he traveled extensively, visiting in the course of his wanderings every state in the union. Hale and hearty to the end he was a splendid type of a true gentleman of the old school. His aristocratic appearance on the streets of Dubuque is oft remarked by the younger generation of physicians. He died on the twenty-first day of November, 1910, at the home of his son F. J. Watson, Thatcher avenue, River Forest, Chicago. His body was brought to Dubuque and buried in Lindwood cemetery. His passing marks the last of our early Iowa doctors many of whom were engaged in laying the foundation of city and state as well as practicing their profession.

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#### ROCKEFELLER BOARD AIDS BRUSSELS UNIVERSITY

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The Rockefeller Foundation has announced a contribution of 43,000,000 francs toward a budget of 100,000,000 francs for new buildings and endowments for the medical school of the University of Brussels. Part of the fund will go to the establishment of a nurses' training school in memory of Edith Cavell and of Madame Depage, who with the Queen of Belgium headed the activities of the Belgian Red Cross during the early part of the war. The class rooms of the new buildings will be on a new site on the Boulevard de Waterloo, adjoining the municipal hospital of St. Pierre, which will also be built and reorganized to serve as the teaching hospital of the University.

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#### PRECAUTIONS AGAINST ENCEPHALITIS LETHARGICA

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England has issued a memorandum relating to personal contact in cases of this disease:

The other occupants of a house in which a case of encephalitis has occurred or is being treated may be assured that the disease is one of low infectivity, and that very little risk is run by association with the patient. At the same time it is desirable that such association should be limited to what is necessary for proper care and nursing, and the patient should be well isolated in a separate room.

School children in the affected household may be kept from school as a precautionary measure, for three weeks after the isolation of the patient. There is no necessity to place restriction on the movements of other occupants provided they are frequently examined and remain well. Those in contact with the case, however, should be advised to use antiseptic nasal sprays or douches, and to gargle the throat with solutions such as those advised for influenza.



# The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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## A NEW EVANGELIST AND HEALER

A new competitor in the field of psychic healing has appeared in the person of Mrs. McPherson of San Jose, California. She appears in the double role of an evangelist, and healer. It is not clear which stands first but one would conclude that they were associated, so that one may supplement the other. The power of miraculous healing to give greater force to her preaching, and her preaching, her attractive person, her manner, and her air of mystery to intensify the psychic influence as we have so often seen, under so-called Christian science healing.

Mr. King in the *Congregationalist*, reviewing her work is inclined to give Mrs. McPherson credit for honesty of purpose and faith in her power to heal. Yet we cannot escape the belief that her case will not differ from so many that have appeared in the past; that of degenerating into a commercial plan of healing for money under the guise of religion. Mr. King himself fears something of this kind, although more considerably stated; as a possibility of bringing disappointments to many when they discover their diseases are not cured. We would much prefer to agree with Mr. King, but there are so many inconsistent statements in Mrs. McPherson's interview that we cannot wholly avoid the impression that the power of wonderful healing appeals to her more than reforming the church and the ministry. She has not, as yet, reached the point that doctors are unnecessary, or that all cases of dis-

ease can be cured by her prayers, but she has very nearly reached that point.

The near coming of Christ, we do not feel competent to discuss, nor do we feel better able to discuss the spiritual value of her preaching or teaching; this is the field for the Theologian, but this trafficking in human ills for which the church is not responsible, has always thrown discredit on religion. Just at this time, Christian churches are carrying all they can bear without giving encouragement to healing fakers of the religious sort. We should regret most deeply, if a dangerous competitor should come in to dispute the field of healing with the Christian scientists.

It is gratifying to observe the conservative attitude of the *Congregationalist* in its editorial comments. The editor realizes the effect of the dramatic preaching of Mrs. McPherson on the untrained minds of an uncritical public. He realizes the disappointments certain to flow from uncured, or only temporarily cured sick persons, and the criticisms that are certain to fall on Christian churches for claims of miraculous cures often for a money consideration. We should not condemn the church for these unfortunate occurrences, but the individual who seeks to benefit from these claims, or pity the unfortunate ones suffering from some mental defect.

## THE PEKIN MEDICAL COLLEGE

Whatever may be our views of the religious teachings of missionaries among the so-called heathen, of one fact we are quite certain, the value of education and the betterment of the moral and physical condition of the people the missionaries go among. The moral and physical improvement of backward peoples are so closely related to medicine, that we are justified in holding that the medical equipment of a mission is of fundamental importance. Devoted medical practitioners have followed missionaries everywhere and, we cannot place too high an estimate on the value of their work.

The Far East has been, and is a great field for judicious missionary operation. The people of these vast countries may be doubtful of their religious activities, but of the cure of disease and the relief of suffering they have no doubt. We have nothing to offer Japan or its dependencies, but in China and neighboring countries the case is quite different. The few missionary doctors are but a very small drop in the bucket. Far seeing observers realized that important results could be reached only by educating Chinese doctors. Through the work of Cooperative Christian

Endeavor, the Pekin Union Medical College has been founded which expresses the last word in medical college equipment. The story is an interesting one. In 1901 Dr. Cochrane, a young Scottish physician, organized a small hospital belonging to the London Missionary Society. The Congregationalist tells us how it happened. The hospital had been destroyed by the Boxer Siege, "One of Dowager's leading statesman fell ill. One Chinese doctor after another was called only to fail. In this extremity the Empress had the foreign doctor called in with the result that the statesman was cured. On account of his success Dr. Cochrane was permitted to unfold to the Empress his plans for training Chinese physicians. She not only expressed her approval, but gave large sums for carrying out his proposals."

This was the beginning of the Pekin Union Medical College which has received substantial aid from many sources. Harvard University has contributed much in various ways, and so has the Rockefeller Foundation. About \$5,000,000 has been contributed for the construction of buildings and equipment. From 1906 to 1915 British and American missionary organizations co-operated in the development and maintenance of the college and later other agencies have aided. In September a group of educators visited Pekin for the purpose of dedicating this great humanitarian enterprise. Among them J. D. Rockefeller, Jr., Mr. George E. Vincent, President of the Rockefeller Foundation, Dr. Wm. Welch, and many others.

The British and American missionary associations are entitled to great credit for the early work in organizing this important medical college, but it is the Harvard and Rockefeller aids and direction that has placed the college on a broad foundation with an equipment that will place the institution in the first rank of medical schools.

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#### MATERNITY BILL

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In the February Journal, we published the Maternity Bill recently passed by Congress, received through the courtesy of Senator Kenyon. We have read this bill carefully but confess to the fact that we do not understand its meaning or application. That it has merit, we do not doubt, but wherein? The important need is of measures that will decrease maternity death rate, that will provide better care for mother and child during a trying period.

The fundamental need is hospital care during confinement and immediately thereafter. The well-to-do are in serious danger, but the poor in

their unfortunate environment are in greater danger. Not only do these need immediate professional care but they also need education and direction for their own welfare, and for the welfare of the infant. The medical practitioner knows full well that there is a period before confinement that dangerous complications may arise that may be fatal to both mother and child, that could be remedied by proper treatment under favorable circumstances.

It is unquestionably true that general maternity, and child welfare measures are of great importance in the hands of lay welfare committees and commissions, but there are features of the case which can only be properly considered by members of the medical profession. If there are features in the bill that will permit the use of funds for maternity hospital service for the distinct purpose of lessening the mortality rate, we have no objections to offer even if the administration of the law be in the hands of self-constituted boards.

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#### A NEW HOSPITAL AT CAMP DODGE

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We are publishing in this number a letter received from Lieut.-Col. W. S. Conkling advocating the building of a memorial hospital at Camp Dodge for the care of National Guard Soldiers who may be injured or sick while on duty in the service of the state or nation. There is no suitable means of care for the men to whom we owe an obligation which can be adequately compensated in money. It is true that there are good hospitals in Des Moines, but those who are familiar with industrial accidents or with military service know there is serious risk in transporting badly injured persons even the distance of twelve or fifteen miles. Not only is there a risk in transportation, but the delay involves a greater risk.

There is a feeling that our soldiers are entitled to the best we can give them at all times. Also considerations of welfare have an immense influence on the morale of men who voluntarily give their time and service to the state. The building of such a hospital would be a graceful tribute to the men who offer their lives to our country in time of need. The expressions embodied in the resolutions should receive serious and prompt consideration.

Dear Doctor Fairchild:

As you probably have noticed by the Press, the National Guard officers had a meeting in Des Moines last Thursday, Friday and Saturday and at the close of this meeting each of the regiments and the medical department got together for a conference. At the



conference of the medical officers I submitted to them the plans for a new hospital at Camp Dodge which is needed very badly. Last year we used the old dental building which did fairly well but, of course, is not of a permanent character. The hospital saved at least one life when a young man was brought in with a depressed fracture of the skull apparently dying. Dr. V. A. Ruth promptly relieved the depression and the young man is getting well although he has had a very stormy convalescence. The thought occurred to us while we were discussing this hospital that it would be a fine idea to erect a memorial hospital and the following resolutions were passed:

"Resolved that steps be taken for the building of a Memorial Hospital at Camp Dodge, requesting the support of the Iowa State Medical Society, Iowa State Dental Association, Iowa Branch National Red Cross, Nurses Association, civic bodies in communities supporting National Guard Organizations, and public spirited citizens. This memorial for doctors, dentists, nurses and enlisted men of the Medical Department from Iowa who lost their lives in the World War.

These resolutions were submitted to the other National Guard officers who received them enthusiastically. It should be possible to erect a memorial hospital at Camp Dodge which will be of great benefit to the state and a memorial for the medical men and women who gave up their lives during the World War."

WILBUR S. CONKLING,  
A. A. Surg. U.S.P.H.S.

The State University is erecting at the present time a building, adjacent to the University Hospital, which is to be used entirely as a venereal hospital. It is a two-story frame building and will be very light and well ventilated; the first floor will be used for men and the second floor for women and children, and will accommodate about fifty or sixty patients. Adult patients can be sent to this hospital under the Haskell-Klaus Act, Chapter 78, Acts of the 38th General Assembly and children may be sent under the Perkins Law, Chapter 24, Acts of the 36th General Assembly.

It is my judgment that there has been nothing in the State of Iowa which will do as much for the Control of Venereal Diseases as the establishment of this hospital by the University. Dr. N. G. Alcock will have full charge of this hospital.

WILBUR S. CONKLING,  
A. A. Surg. U.S.P.H.S.

The hospital above referred to is the result of the efforts of President Jessup and Dr. Dean, who have a broad vision of the needs of the state and particularly of the needs of unfortunate individuals. Since the inception of the administration of the two officials above referred to the

University has been alive to progressive welfare activities which places our great institution in the front rank of educational, humanitarian and public welfare organizations.

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### THE TRAINING OF NURSES

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The Journal of Oklahoma State Medical Society, speaking editorially of the training of nurses holds that a three years' training as a routine requirement is unnecessary.

There is no good reason why an intelligent woman should be required to give three years of her time in order to master the fundamentals necessary to carry out the orders of the attending physician.

There is much sentiment of this kind among members of the medical profession. This sentiment no doubt grows out of the fact of the shortage of nurses who are competent to perform the ordinary duties of caring for patients suffering from general diseases under the direct care of physicians, and on account of the high fees charged which are beyond the reach of a great number of patients. If arrangements could be made which would provide for a one or two years' course of training for intelligent young women and a three years' course for those who desire to prepare themselves for special work, after securing a high school course of preliminary preparation, the public would be much better served than now with a standard three years' course and a large portion of the sick without nurses.

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### HOSPITAL STANDARDIZATION

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The important work of the American College of Surgeons in improving the standards of hospitals in the United States and Canada should be a matter of general professional information. At the Philadelphia Conference October 24, the subject was fully discussed. Through the courtesy of the director-general of the college, we have been furnished with page proofs of the stenographic notes which we will publish in installments.

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### AMERICAN COLLEGE OF SURGEONS

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Report of the hospital conference held at the clinical congress of the American College of Surgeons, October 24, 1921, Philadelphia. Morning session—The President, George E. Armstrong, M.D., presiding.

## HOSPITAL STANDARDIZATION, ITS INCEPTION, DEVELOPMENT, AND PROGRESS IN FIVE YEARS

You have all undoubtedly asked yourselves why this program of the American College of Surgeons has been received with so much approval, why it has attracted so much attention, why it has had so much influence.

Scientific medicine is developing so rapidly that of necessity it is reducing the number of the medical profession in proportion to the people they have to care for. Medicine, therefore, is becoming more wholesale and institutional, less retail and domiciliary. That of necessity has placed an enormous responsibility upon the hospital, because the hospitals must be the institutions in which the wholesale or group medicine is practiced.

The American College of Surgeons is responsible for the standardization of hospitals, because in its early days it found it necessary to standardize its own environments. For instance, in making a standard for admission to fellowship, it was necessary that we ask the candidates to furnish us the reports of fifty major operations and fifty minor operations, in lieu of an examination. These reports began to come in. They were on all kinds of forms. There was absolutely no standard record on which they could give us the evidence of their own ability to practice surgery. Soon we were asked from every direction to furnish a standardized system of records, to suggest a form upon which these records could be given to the college. We attempted to do that. A committee was formed for the purpose, and we furnished, wherever required, a set of standardized records. Then what happened? The hospitals—a great many of them—began to ask us if we could not in some way furnish these same standardized records or forms to them, which, of course, we were very glad to do.

That was the first step in the standardization of hospitals. Then, early during the war, it became necessary for us to have some other minimum standards that would apply to the hospitals in the camps, the army hospitals. And in Washington was called a conference of medical officers and we discussed a minimum standard for military hospitals.

After that, in one year, the American College of Surgeons formulated its minimum standard for hospitals. Is there anything that a hospital can leave out of that standard and be a hospital? First, records; second, staffs, with staff meetings; third, a competent and honest staff; fourth, laboratories. That is practically the minimum standard of the American College of Surgeons. Any hospital that cannot furnish this minimum standard is not a hospital. It is the very minimum thing we could ask of hospitals to do in order to have us recognize them as hospitals.

That led immediately to a survey of the hospitals to ascertain which hospitals met this minimum standard. For the last three or four years surveyors employed by the college have visited all of the hospitals

of one hundred or more beds in the United States and Canada.

### Summary of Yearly Reports

In 1918, of the 692 general hospitals of one hundred or more beds, in the United States and Canada, 89 met the standard; in 1919, 198; in 1920, 407, or 57 per cent; and this year, 568, of a total of 761 hospitals, or 74 per cent, meet the standard of the college.

### 1921 Report

Today, we have the pleasure of presenting to you our annual report on the hospitals of North America, having one hundred or more beds. This list contains the names of such general hospitals in the United States and Canada as have met the minimum standard. In this list, a certain number of institutions are designated with a star. This group includes those hospitals which, when visited, had adopted the fundamental principles of the minimum standard, but which at that time had not had sufficient opportunity to develop all of them to a degree meriting the fullest approval. The hospitals listed without a star instituted these measures at an earlier date, and consequently received the benefits of a longer experience in the workings of the program and a broader conception of its application.

### The Future Program

The program of the future will be extended to include all general hospitals of fifty or more beds in the United States and Canada. Of these institutions, many of which have been visited, a large number showed a working knowledge of the minimum standard and evinced an active desire to cooperate. The percentage of these meeting the standard on first visit compares favorably with the percentage of the larger hospitals approved on first inspection. If proof were needed of the universal application of the minimum standard, the acceptance by the smaller hospitals would furnish it. Stressing only broad fundamentals, the minimum standard molds itself to meet specific needs, nowhere impeding initiative or fettering judgment. Rightly conceived and carried out, it makes the hospital the proved guardian of the community health, rendering scientific service to all.

### Why the College Must Continue This Survey

Now, surgeons and hospital superintendents, what is the future program of hospital surveys other than I have indicated here? Why should the American College of Surgeons continue this work? It should continue the work because it is the measure that the college has of the fitness of the men who we expect will enter the college. It is impossible for the college to do anything but to take the leadership in the question of its own standard. It is something that we cannot delegate to someone else. Therefore, as long as the American College of Surgeons is in existence, I can see that it will be the duty of the American College of Surgeons—duty to itself—to see that the environment in which its candidates do their work is of the proper kind. Therefore, this work will have



to go with the college. The success of this work, I believe you will all realize, lies in the fact that back of it is a great ideal for service and honesty. And this is the reason the program has succeeded far beyond our expectations.—Franklin H. Martin, M.D., Chicago, Director-General of the American College of Surgeons.

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#### HOSPITAL STANDARDIZATION FROM THE VIEWPOINT OF THE MEDICAL PROFESSION

Mild as this meeting looks, Mr. Chairman, it represents a revolution that has come very quickly and very sanely. Years ago Dr. Codman asked of the medical profession and of hospitals: "Do you dare show us your end-results?" A Dr. Martin takes up this challenge and with a Bowman and a Moulinier puts it into effect, and in working order, on a surgically sane basis. Hospitals have been answering that challenge ever since and their answer to the challenge represents the effect of hospital standardization.

Hospital standardization might belong to the American Hospital Association, that wonderfully able body represented here so fully. But standardization of the surgeon belongs to the surgeon.

Now, Codman saw years ago that you can have a surgical accounting as you can have any accounting. If it could be done in government, if it could be done in finance, it can be done here. Honor, honesty, and efficiency can be measured.

Let us come to the staff review. I take it the college—I am not speaking officially for them—I take it the college has had this to say: "Yes, we can give you a sample laboratory list, but as to what constitutes a staff review, you had better experiment a while yourselves. Start the machinery. Try it out." I think the time has come for the college to give us a sample procedure for staff meetings, adaptable to different types of hospitals.

One other pitfall: Here is a surgeon knowing that he should not have a mortality in his active service, we will say, of more than 4 per cent, and who therefore refuses to endanger his mortality record by certain operations. I do not want any man to refuse to open my abdomen because he might exceed his death-rate. You have to have fearless surgery today.

Now, on the other hand, the reckless experimenter with human life must be curbed. Some of the greatest surgeons are the most reckless. How are we going to take counsel in any of these great things unless we do as Codman has told us to do? We should charge up an error of judgment or of technique when indicated and, in other cases, wipe that physician's record clean from censure who operates upon a patient in extremis, hoping to save a life. In other words, this matter of fair surgical mortality must be formulated and I think the college is the authority to act.

The hospital trustee comes to me and says: "You

know my interest in this matter. What should our records be? What is a fair mortality? What is a fair infection in clean cases?" The college has given us certain averages. What would be a normal average? This is another place where the college might compile and publish interesting suggestions. In my opinion, the time has come to define a few other minimum standards.

Another point regarding the staff meeting: It should be for mutual stimulation and encouragement. Nothing is gained by turning it into a fault-finding clinic. We must bring in individual triumphs, as well as failures. Then the staff meeting will make for better effort.

When all is said and done, gentlemen, the whole story comes down to this: You cannot legislate these things. As the last speaker has said, the answer to all progress in medicine depends upon the elimination of the unfit, and the development of individual honor and competence.—Robert L. Dickinson, M.D., New York.

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#### IOWA UNIVERSITY NEWS NOTES

Don M. Griswold, M.D.

Dr. A. H. Byfield gave an address before the Creighton Medical staff in Omaha on "The Clinical Manifestations of Focal Infections in Children," January 19, 1922. Dr. A. H. Byfield is to give a talk in Des Moines early in February on "Tuberculosis in Infants and Children."

Dr. Charles Rowan who has been acutely ill for the past three weeks with rheumatism, will make a Mediterranean trip, starting Monday, January 30, 1922, and will be gone three months returning about the 1st of May.

The new home for nurses across the river was opened for occupancy the 1st of January, 1922, and the new cafeteria was started on January 24, 1922. This cafeteria is equipped with the latest improvements, and will easily seat about 100 at a time.

Iowa University's annual medical clinic is announced for April 11 and 12 at the University Hospital, under the direction of the faculty of the college of medicine. This is for all doctors interested and is not confined to alumni of the University. Most of the work will be presented by members of the faculty.

Miss Mary C. Haarer has resigned her position as superintendent of nurses at the University Hospital. Miss Haarer has held this position for more than five years and it is through her ability and progressive ideas of nursing, that this school has been placed among the foremost of the country today. During her tenure of office, she was faced with the trying conditions of the war period, after which the epidemic of influenza raged, and it was during these

periods that her wonderful ability for organization stood out very prominently, and her leadership was a most valuable asset to the school and community. Her high ideals and principles of nursing, which she has instilled into her various classes of students, will long be felt as an influence throughout the nursing world. It is with sincere regret that we lose Miss Haarer from the University of Iowa, and wish her success in her future work, wherever it may be.

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### MEDICAL NEWS NOTES

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A resolution protesting against the plan by which congress would replace medical reserve officers with civilian doctors was passed January 5 by former service men who are confined in the government reconstruction hospital at Colfax, Iowa.

The resolution, bearing the signatures of ninety-one disabled soldiers, will be forwarded to President Harding immediately.

The former service men are opposed to any change in the staff of the Colfax institution on the grounds that the reserve officers are familiar with their disabilities and show more interest in the general welfare of the patients than civilian doctors, according to one of the hospital officials.

It is said that the attempt to change the physicians of government hospitals is the work of a group of politicians in congress who are opposed to the Dyer-Watson bill, under which reserve officers were to have been placed on the staffs of the hospitals for a specified period.

Under the present arrangement physicians at the Colfax hospital and other government institutions are being subjected to an injustice in the opinion of members of the medical staff at the Colfax reconstruction hospital as they have no assurance that their connections will be permanent.

"We have no future under the present arrangement. We don't know from one day to the next whether we will have a position or not," said one physician, a member of the medical reserve corps.

The former service men, at their meeting yesterday, also passed a resolution declaring that in their opinion the government would be subjected to an added expense if any change to civilian doctors were made.

The movement to replace the reserve officers by civilians has been held up temporarily by congress. Representatives Ramseyer and Sweet of Iowa conferred with the veterans bureau in Washington yesterday, opposing the change. The American Legion is also protesting against the change.

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### GROUP PRACTICE

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The Medical Record for March 19, 1920, contains an editorial which presents certain arguments in favor of group practice. Group practice according to the Record offers the best solution for the young men just entering the field of medical practice, and

concludes: "Granting the ability of the group to get along amicably together, to arrange finances satisfactorily, to behave generously toward other groups or individuals, to refrain from charging exorbitantly, etc., group practice is in a fair way to become an excellent medium through which the public may profit by the recent hospital graduate and occupy a position of financial solvency at no cost to his self-respect."

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### FUNDS FOR MEDICAL COLLEGE

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It is reported that the Albany Medical College has succeeded in raising \$120,000—\$40,000 a year for the three years—which was necessary to secure a gift of \$60,000—\$20,000 a year for three years—from the Rockefeller Foundation. This assures the college an additional income of \$60,000 per year for the next three years.—Journal of A. M. A.

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### MEMORIAL TO DR. SATO

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In memory of the late Dr. Susumu Sato, who devoted his life to the progress of the medical science in Japan, a laboratory will be constructed at a cost of 300,000 yen, for the Yuntendo Hospital, the largest private hospital in Japan. Courses in every branch of medical science will be offered under the presidency of Dr. Susumu Nukada, and clinics will also be held in the institution.—Journal of A. M. A.

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### PUBLIC HEALTH SERVICE BUREAU CIRCULAR NO. 323

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To: Medical Officers in Charge, U. S. Public Health Service, and others concerned:

Subject: Change in designation of U. S. Public Health Service Hospitals.

1. You are advised that hereafter the word "Marine" will be substituted for the words "Public Health Service" in the names of the following stations: U. S. Public Health Service Hospital No. 29, Sewell's Point, Norfolk, Virginia; U. S. Public Health Service Hospital No. 43, Ellis Island, N. Y.; U. S. Public Health Service Hospital No. 66, Carville, Louisiana; U. S. Public Health Service Hospital No. 70, 67 Hudson Street, New York, N. Y.

The above named stations shall hereafter be designated as follows: U. S. Marine Hospital No. 29, Norfolk, Virginia; U. S. Marine Hospital No. 43, Ellis Island, N. Y.; U. S. Marine Hospital No. 66, Carville, Louisiana; U. S. Marine Hospital No. 70, New York, N. Y.

2. Substitute the words "U. S. Veterans" for the words "U. S. Public Health Service" in the designation of all other U. S. Public Health Service hospitals operating under the designation "U. S. Public Health Service Hospital," and all others of the same designation hereafter re-opened. All of the hospitals stipulated in this paragraph and hospitals subsequently acquired by purchase, lease or otherwise, by



the Public Health Service, excepting such as shall be acquired and operated as U. S. Marine Hospitals, will hereafter, until these instructions are amended or rescinded, be known as U. S. Veterans' Hospitals.

3. It should be noted that the numbers of the U. S. Public Health Service Hospitals are not to be changed, and consecutive numbering will be continued.

4. The foregoing plan does not apply to the U. S. Marine Hospitals and no change is to be made in the twenty-three marine hospitals of the U. S. Public Health Service. The hospitals operated by the Public Health Service are divided into two classes; viz., U. S. Marine Hospitals and U. S. Veterans' Hospitals.

5. You are directed to inform all officers and employes at your station of the changes outlined in this letter, and instruct them to govern themselves accordingly.

H. S. CUMMING,  
Surgeon General.

## SOCIETY PROCEEDINGS

### Clinton County Medical Society

The Clinton County Medical Society met at the Lafayette Hotel, Clinton, Iowa, on Thursday evening, January 26, 1922, with an attendance of over thirty members.

After dinner in the dining room, adjournment was taken to the hotel parlors, where after a business session, the following program was presented:

Blood Transfusion in Anæmia, by Dr. H. A. White of Clinton. This subject was presented in most excellent form, showing much thought and study in its preparation, and was freely discussed by Doctors Heusinkveld and Hoffstetter, with closing remarks by Doctor White.

Dr. C. Ross, pathologist at Jane Lamb Memorial Hospital, Clinton, then reported a rare case of Carcinoma of the Lung, illustrated by radiograms, taken by Dr. B. C. Knudsen, radiologist of the above hospital. Dr. Ross' report contained symptomatology, clinical findings and physical examination, together with complete autopsy and laboratory report of microscopic examination of stained specimens. The paper was freely discussed by Doctors' Morgan, Sugg, Hullinger, White and Hohenschuh.

Adjournment was then taken to meet the first week in March.

M. S. Jordan, Sec'y-Treas.

### Fremont County Medical Society

The Fremont County Medical Society met at the Hamburg Hospital, Friday, January 6th, and elected the following officers for the ensuing year: Dr. Wm. Kerr, Randolph, president; Dr. R. C. Danley, Hamburg, vice-president; Dr. A. E. Wanamaker, Hamburg, secretary-treasurer; Dr. Ralph Lovelady, Sidney, censor; Dr. E. E. Richards, Hamburg, delegate to state meeting.

### Greene County Medical Society

The annual meeting of the Greene County Medical Society was held at the home of Dr. and Mrs. Ben Hamilton, Jefferson, February 10, 1922. Guests of the evening were Miss Greene, county nurse, and Dr. Francis R. Holbrook of Des Moines. Dinner was served for the physicians and their wives at 6:30 p. m. This was prepared and served by the society. Miss Greene gave a talk on Duties and Results of the Public Welfare Nurse. The ladies then attended a movie. Dr. Holbrook talked on Fractures and Their Treatment—Their Present Status. This was a very instructive talk. Each physician then gave the history and treatment of a fracture case from his own practice. Each case was discussed. Officers elected: President, Dr. A. I. Reed of Grand Junction; vice-president, Dr. G. Franklin of Jefferson; secretary-treasurer, Dr. J. Black, Jefferson; censors, Drs. Hamilton, Sr., Hoyt and Cressler; delegate, Dr. Ben Hamilton; alternate, Dr. Geo. Franklin.

The following were present: Drs. Reed, Kester and wives, Grand Junction; Dr. and Mrs. Cressler, Churdan; Drs. Hoyt, Hamilton, Sr., Franklin, Black, Hamilton, Jr., and wives of Jefferson. The past year has been a pleasant and profitable one for the members. Each meeting has been one for pleasure as well as business. The physicians' wives are very much interested and provide eats and program for each meeting.

Benj. C. Hamilton, Jr., Sec'y.

### Hancock-Winnebago County Medical Society

Doctors Stull and Fillmore entertained the Hancock-Winnebago County Medical Society and invited guests Monday afternoon and evening.

The scientific program began at three o'clock. The first number was a paper on the treatment of heart disease by Doctor Field of Fort Dodge. The second a paper on the Diagnosis of Kidney Lesions by Dr. Stam of Mason City. Following this a roast pig was served.

### Jasper County Medical Society

The Jasper County Medical Society held its last meeting of the year Tuesday evening, December 6 at Prairie City.

The meeting was called to order by Dr. F. W. Stewart, president of the society. After reading of the minutes by the secretary, Dr. Peter Herney of Prairie City, read a paper on Diphtheria and Its Control. This was an especially interesting subject because of the extensive epidemic of diphtheria in Prairie City and vicinity.

Dr. Edward J. Harnagel of Des Moines was then introduced, and read a very interesting paper on Recurrent Inguinal Hernia.

After a discussion by members of the profession, election of officers for the year of 1922 took place. The following were elected: Dr. J. Leo Taylor, Monroe, president; Dr. C. R. Van Voorhis, Prairie City, vice-president; Dr. W. E. Anspach, Colfax,

secretary and treasurer. There was a good attendance of members of the society. The following Des Moines men favored us with their presence: Drs. Edward J. Harnagel, J. W. Martin and Verl Ruth. W. E. Anspach, Sec'y.

#### Lee County Medical Society

Officers elected: Dr. I. W. Traverse, Ft. Madison, president; Dr. I. M. Lapsley, Keokuk, vice-president; Dr. Rankin, Keokuk, secretary-treasurer; Dr. Frank Fuller, Keokuk, delegate to State Society.

#### Mahaska County Medical Society

The Mahaska County Medical Society met in Oskaaloosa, December 21, 1921. Dr. C. E. Ruth of Des Moines read a paper on Fractures.

Officers elected: Dr. Fred J. Jarvis, president; Dr. John A. Ruan, vice-president; Dr. F. A. Gillette, secretary-treasurer. The social feature of the meeting was the annual banquet at the Chamber of Commerce attended by the members of the society and their ladies.

#### Marshall County Medical Society

Forty members of the Marshall County Medical Society were the guests of Dr. R. E. Keyser at dinner Thursday night, January 4 at the Chamber of Commerce. The program of the monthly meeting of the society; Dr. Lawrence E. Kelley, Des Moines, read a paper on Treatment of Fibroid, followed by discussions by Dr. M. U. Chesire and Dr. Thomas Burchman, Des Moines and Dr. L. F. Talley.

After Treatment of Peritonitis was the subject of a paper read by Dr. H. E. Pfeiffer, Cedar Rapids. Discussions by Dr. Theodore Engle, State Center; Dr. E. M. Meyers, Boone, and Dr. Keyser. Dr. Edward M. Meyers read a paper on Metastatic Arthritis. Discussion by Dr. Pfeiffer and Dr. F. L. Wahrer.

#### Muscatine County Medical Society

Adoption of new policies relating to the enforcement of health regulations in Muscatine county was urged before the board of supervisors by the Muscatine County Medical Society.

Suggestions were presented by Dr. T. F. Beveridge and Dr. B. E. Eversmeyer. Various members of the medical society met in conference in which the subject of the county health physician was discussed.

According to the plan suggested to the supervisors, the duties of the health physician would be more specific than at present, in addition to making that official's task more representative. As pointed out before the board by Drs. Beveridge and Eversmeyer, the county health physician devotes most of his official work to attending patients at the jail and court house. The contention was raised that his duties should be similar to those of the city health officer, with full authority to placard homes on occasions of epidemics and to supervise the health of the county much as the city physician does locally.

Another suggestion offered by the representatives of the medical society was the inauguration of a system whereby health officers be appointed for various townships of Muscatine county. This was explained as meaning that a doctor in Muscatine, Wilton, West Liberty, Nichols and perhaps one or two other towns be designated as the health physician for adjacent townships. These should be given all the power and authority of a regularly appointed county health physician.

It was emphasized that through this method, considerable saving in transportation costs would result. Under the present arrangement, if the county health physician is called upon to attend a case in a distant township, the expense to the county is proportionately greater than if such a case were within a closer radius to Muscatine.

#### Polk County Medical Society

The annual meeting of Polk County Medical Society was held at the Grant Club, December 27, 1921. Including the ladies and invited guests, there were approximately 300 present. The banquet was served at 6:30 p. m.

Following the banquet, Harvey Ingram, editor of the Des Moines Register delivered an address, Altruism in Nature, which was highly appreciated, particularly, because it related to question of vital importance, not only to our own people, but to the entire world. Following Mr. Ingram's address was the president's address which related to matters of interest to the society including the work of the past year.

The total membership of the society at the end of the year 1921 is 250.

Resolution was adopted by unanimous vote approving the appointment of Dr. Rodney P. Fagan as secretary of the Iowa State Board of Health. Dr. Fagan is a graduate from Drake University College of Medicine, 1912. Interne, Mercy Hospital, served in the World War first as surgeon; Second Iowa Infantry with rank of major; later was transferred to 109th Engineers and sent to France; was again transferred to the 34th Division as assistant division surgeon, and finally transferred to the 80th Division and returned home with the Division as acting chief surgeon with the rank of lieutenant-colonel.

The following officers were elected for 1922: Dr. A. P. Stoner, president; Dr. M. L. Turner, vice-president; Dr. H. E. Ransom, secretary; Dr. E. B. Mountain, treasurer.

The following resolution was introduced by Dr. Walter L. Bierring and adopted by the society:

"Whereas: The announcement has been made of the appointment of Dr. Rodney P. Fagan as secretary of the Iowa State Board of Health and Medical Examiners, and

"Whereas: We, the members of Polk County Medical Society feel highly honored and gratified to have this selection made from our membership, be it



"Resolved: That this society record herewith its expressions of congratulation, and pledge of unqualified support to Doctor Fagan in his great work to promote the public health interests of our state.

"Be It Further Resolved, That a copy of these resolutions be sent to the governor and other members of the appointing board, and to Dr. Fagan.

H. E. Ransom, Sec'y.

#### Story County Medical Society

The Story County Medical Society held its annual meeting in Nevada Wednesday evening, January 11, at the office of Dr. Bush Houston, president of the society. Preceding the regular session which was held at 8 o'clock in the evening, a special dinner menu was served at the Olympia Cafe.

The evening program consisted of papers and discussions on medical topics. The formal papers were Dr. F. S. Smith of Nevada, on Gall Bladder, and Dr. Joor of Maxwell on Asthma. Doctors McKharin and Henske of Iowa State College at Ames were elected to membership in the society.

Officers were chosen for the year as follows: President, E. B. Bush of Ames; vice-president, Dr. Glann of Colo; secretary-treasurer, B. G. Dyer of Ames.

The next meeting of the society will be held at Ames.

#### Tama County Medical Society

Tama County Medical Society met at Tama, December 14, 1921. A combined social and professional convention. Following a banquet served by the ladies of the Baptist church, Dr. Thompson (mayor) delivered an address. Dr. McDowell read a paper on The Treatment of Pneumonia. Dr. Allen read a paper on The Treatment of Ordinary Surgical Cases. illustrated by clinical patients.

Members present: Drs. Pinkerton and Crabb of Traer; Drs. Guesner and Brandt of Dysant; Dr. McDowell of Gladbrook; Dr. Hasek of Clutiv; Drs. Thompson, Allen, Sievers, Whalen and Carpenter, including their wives; Miss Ebersole, Miss Chervenka, Mr. and Mrs. Earl Spooner, Mr. and Mrs. L. E. Roack and Mrs. Leonard Allen as guests.

The community and social relationship of county medical societies is a most encouraging feature of medical organization.

#### Washington County Medical Society

Washington County Medical Society held its annual meeting at Washington, December 19.

The address of the evening was by Paul A. White of Davenport on Radium.

Officers elected: President, Dr. C. W. Stewart, Washington; vice-president, Dr. N. J. Lease, Crawfordsville; secretary and treasurer, Dr. H. C. Hull, Washington; delegate to State Medical Society, Dr. C. A. Boice, Washington.

#### Keokuk Physicians' Club

Keokuk Physicians' Club met December 14, 1921. Dr. Tom B. Throckmorton of Des Moines delivered an address on the Diagnosis of Nervous Diseases.

Officers elected: President, Dr. O. T. Clark; vice-president, Dr. W. M. Hogle; secretary, Dr. F. J. Chapman; treasurer, Dr. C. A. Dimond; censors, Drs. William Rankin, W. M. Hogle, and E. G. Wollenweber.

#### Waterloo City Medical Society

The Waterloo City Medical Society recently "pulled off" what is believed to have been one of the most successful and largely attended medical meetings ever sponsored by any local society in the state.

Prior to the date of the meeting which occurred January 21 the society sent out a large number of invitations and approximately 150 responded; this attendance, added to that of the members of the local profession made an imposing audience. The program began with a complimentary dinner tender by the society to those present which took place in the dining rooms of the Greater Waterloo Association at which nearly 200 physicians sat down.

At the conclusion of the dinner the president of our society, Dr. T. F. Thornton in a few well chosen words, introduced the headliners of the program—the essayist being Dr. George W. Crile of Cleveland who addressed the meeting on Some Points in Surgery of the Stomach, the discussion of which was opened by Dr. J. E. Summers of Omaha. Both of these men and their abilities are so well known that it is only necessary to mention their names to convey an impression of the close attention which was given to their utterances. Following Dr. Summers a general discussion was indulged in by many of those present, after which Dr. Crile closed in a highly interesting and very profitable manner to those present. After adjournment an informal reception in the club rooms was held to the guests of honor. Many notable Iowa physicians were present, some of them from considerable distances. It is the policy of the Waterloo society to hold similar meetings at monthly intervals during the active season, and it is the hope of its officers that this meeting is an index of the character of those to follow.

F. W. Porterfield.

#### Mississippi Valley Medical Association

Officers elected: President, Dr. Charles E. Barnett, Fort Wayne, Indiana; first vice-president, Dr. William Engelbach, St. Louis, Missouri; second vice-president, Dr. John de J. Pemberton, Rochester, Minnesota; secretary, Dr. Henry Enos Tuley, Kentucky, re-elected; treasurer, Dr. Samuel C. Stanton, Chicago, Illinois, re-elected. Place of meeting, Rochester, Minnesota.

—The Chicago Medical Recorder.

## TUBERCULOSIS CLINIC

All physicians in attendance at the annual meeting of the Iowa State Medical Society will be interested in a tuberculosis clinic to be held in conjunction therewith on the afternoon of Friday, May 12, under the auspices of the Iowa Trudeau Society which is affiliated with the Iowa Tuberculosis Association. Arrangements have been made to bring to Des Moines for this occasion George Thomas Palmer, M.D., of Springfield, Illinois, well known tuberculosis specialist, and president of the Illinois Tuberculosis Association.

## THE ST. LOUIS MEETING OF THE AMERICAN MEDICAL ASSOCIATION

The May meeting of the American Medical Association at St. Louis promises well toward being the largest in attendance of any of the association's sessions. Since the publication of the hotels in the Journal of the Association in December, inquiries and reservations are being made daily. The hotels and the Conventions Bureau are aiding the committee in a most satisfactory and helpful way to see that the Fellows are comfortably housed and accommodated. The A. M. A. meetings tax all cities entertaining them to the limit of hotel capacity. Whenever possible a good Fellow should double up so that no one is left without comfortable lodging.

Reservations should be made by communicating direct with the hotels. If satisfactory arrangements cannot be made in this way, write to Doctor Louis H. Behrens, chairman committee on hotels, 3525 Pine street, St. Louis, Missouri.

### St. Louis' Leading Hotels

American, Seventh and Market streets—Diseases of Children.

American Annex, Sixth and Market streets—Pathology and Physiology, Pharmacology and Therapeutics.

Beers, Grand and Olive streets.

Brevort, Fourth and Pine streets.

Cabanne, 5545 Cabanne street.

Claridge, Eighteen and Locust streets—Obstetrics, Gynecology and Abdominal Surgery.

Hamilton, Hamilton and Maple streets.

Jefferson, Twelfth and Locust streets—Surgery, General and Abdominal, Orthopedic Surgery.

Laclede Hotel, Sixth and Chestnut streets.

Majestic, Eleventh and Pine streets—Dermatology and Syphilology, Nervous and Mental Diseases.

Marion Roe, Broadway and Pine streets.

Marquette, Eighteenth and Washington streets—Laryngology, Otology and Rhinology.

Maryland, Ninth and Pine streets—Gastro-Enterology and Proctology, Urology.

Planters—Fourth and Pine streets—Ophthalmology.

Plaza, 3300 Olive street.

Roselle, 4137 Lindell Boulevard.

St. Francis, Sixth and Chestnut streets.

Statler, Ninth and Washington streets—Practice of Medicine.

Stratford, Eighth and Pine streets.

Terminal, Union Station.

Warwick, Fifteenth and Locust streets—Stomatology, Preventive Medicine and Public Health.

Westgate, Kingshighway and Delmar streets.

## HOSPITAL NEWS

Iowa University's new \$275,000 psychopathic hospital is now open and patients are being attracted from all parts of the state and from adjacent states. The institution is one of four such institutions in the country, others being established at Baltimore, Boston and Ann Arbor. The Ann Arbor hospital and the one here are the only two that are directly connected with university medical schools.

The hospital was built primarily to treat patients from Iowa financially unable to receive treatment in private institutions, but patients from outside the state and also from within the state whose finances are sufficient to pay well for treatment are also coming here, lured by the exceptional facilities and extremely competent staff.

A total staff of twenty-seven will be maintained. At present this staff is only partially complete and consists of Dr. S. T. Orton, director, Dr. T. G. Lowrey, assistant director, J. B. Morgan, psychologists, O. L. Hoover, chemist, Miss Margaret Moffet, social worker, and Dr. G. S. Sprague, senior interne. A junior interne is soon to be appointed. The remainder of the personnel is made up of nurses and attendants.

The hospital here is the best adapted in the country for treatment of mental cases, and though it is limited to sixty patients at a time, it is sure to do a great work.

Citizens of Manning are planning the erection this spring of a new hospital to be under the management of Catholic Sisters. The new building will have a capacity of from thirty-five to fifty beds and will cost not less than \$30,000, according to preliminary estimates.

## PERSONAL MENTION

Appointments of Union county health physicians for the year 1922 were made as follows: Dr. F. W. Loomis, Shannon City; Dr. M. B. Reed, Cromwell; Drs. E. C. Ayres and Dr. Lamb, Lorimor; Dr. H. M. Stanley, Creston; Dr. C. C. Rambo, Kent; Dr. J. W. Lauder and Dr. C. B. Roe, Afton.

Doctors Kenefick and Hartman have formed a partnership and together will conduct the Algona Hospital. For several years they have cooperated in their work and now they will be known by the



firm name, Kenefick & Hartman with offices at the hospital.

The supreme court of the United States January 16, 1922, denied the petition for certiorari to review the case of Dr. Walter Matthey of Davenport, convicted under the espionage act. This ends the possibility of appeal to the supreme court of the United States. The court did not deliver an opinion, but simply denied the petition for review which was filed a week ago.

The conviction of Walter Matthey in the federal court at Davenport, Iowa, on the charge of having aided another to violate the espionage act will stand, the supreme court January 16, 1922, refusing to review the case. The conviction was based on a public speech made by Daniel H. Wallace at Davenport, in which he is alleged to have urged those inducted into the military service to refuse to serve abroad, and those who had not to resist the draft and refuse to enlist. Matthey was charged with having "aided and induced" Wallace to make the speech. He contended that the indictment upon which he was convicted was defective and did not charge him with a distinct offense in violation of any law. (This action by the court means that the conviction in the lower court and the sentence to a year and a day in the federal penitentiary stands so far as courts are concerned. It is expected a petition for clemency may be presented to the president on behalf of Dr. Matthey.)—Davenport Times.

Dr. D. S. Bradford of Janesville, Iowa, celebrated his eighty-first birthday, December 4. Dr. Bradford has practiced medicine in Janesville over fifty-five years.

Dr. Ray Wycoff of Wapello has been appointed surgeon in charge of the Ryder Memorial Hospital at Porto Rico.

Minnesota Medicine publishes in the May number a memorial to Dr. Arthur Gillette of the University of Minnesota. The reputation which Dr. Gillette had acquired in the department of orthopedic surgery had become nation wide. Not alone for the distinguished value of the work he had done but also for the activity he displayed in presenting the best of orthopedic surgery to the profession. In 1886 Dr. Gillette graduated from the St. Paul Medical College. In 1895 he began teaching as instructor in orthopedic surgery; in 1897 as clinical professor and in 1898 he was advanced to full professor. In 1913, he was made head of the division of orthopedics. Dr. Gillette's death will be felt as a serious loss in that state of many distinguished medical men.

Mrs. Lela Bowman, wife of Dr. F. A. Bowman, Leon, died February 7 from post diphtheritic paralysis.

Dr. and Mrs. E. E. Krider of Oelwein, Iowa, returned recently after spending the past two months in California and various places of interest enroute.

## OBITUARY

Dr. B. F. Shreve of Bloomfield died at his home from apoplexy, December 19, 1921.

Dr. Shreve was born in Perry county, Ohio, February 20, 1841 where he received a common school education. In 1860 he moved to Douglas county, Illinois and taught school. In 1862 he enlisted in Company B, 79th Illinois Infantry. Was taken prisoner at Stone River and sent to Richmond, Virginia, for thirty-one days and paroled. In March, 1863, he was sent to Benton Barracks, exchanged, and was transferred to the Veterans Reserve Corps; appointed an army surgeon, and stationed at Indianapolis until mustered out of the service in July, 1865.

Returning to civil life, he first returned to Illinois and a year later moved to Jasper county, Iowa, and in October, 1873, to Davis county and engaged in the practice of medicine at Troy.

He had studied medicine with Dr. A. T. Marshall of Douglas county, Illinois, before entering the army and after locating in Troy, attended lectures at the College of Physicians and Surgeons, Keokuk, receiving his diploma December 16, 1875.

In February, 1866, he was married to Miss Addie L. Moore in Jasper county, who with three children survive him.

Dr. Gilbert Baldwin of Ruthven died at his home December 16, 1921. Dr. Baldwin was born at Pickwick, Minnesota, October 23, 1859. He received his preliminary education at the common schools of Oelwein, Davenport, Dubuque and Burlington, Iowa, and graduated in medicine from the medical department of Washington University, St. Louis, Missouri. Located in Ruthven in the spring of 1882 where he practiced since that time, nearly forty years.

Dr. Baldwin was a member of the Palo Alto County Medical Society, of the Iowa State Medical Society, the American Medical Association and the American Association of Railway Surgeons. He was local surgeon for the C. M. & St. P. and M. & St. L. Railways. On March 20, 1904, Dr. Baldwin was married at Spencer, Iowa, to Miss Bessie Larson who survives him, and also one son, Percy G. Baldwin.

Cornelius M. Morford, Toledo, Iowa; State University of Iowa, College of Homeopathic Medicine, Iowa City, 1890; mayor of Toledo, from 1907 to 1915; former president of the Hahnemann Medical Association died September 6, 1921, aged fifty-six—Journal of A. M. A.

Dr. H. D. Chamberlain, seventy-three years of age, formerly of Nevada, died at Colorado Springs, December 31, 1921.

Dr. Chamberlain was born in Grand Isle county, Vermont. Graduated from Oberlin College, and in medicine from the University of Vermont. Soon after receiving his medical degree located in Toledo,

Ohio, and in 1885 located in Nevada, Iowa, where he practiced about thirty-five years.

After the death of Mrs. Chamberlain, his home was broken up, and he divided his time with his son in California, and with his daughter in Colorado Springs. During the epidemic of influenza, and pneumonia when there was a shortage of doctors on account of the war Dr. Chamberlain offered his services to the state to go wherever needed.

For the past two years, Dr. Chamberlain lived with his daughter, Mrs. Beulah Chamberlain Brown of Colorado Springs. His son, Dr. Harry D. Chamberlain, is practicing medicine in Los Angeles, and his youngest daughter, Miss Alice Chamberlain, is in missionary work in India, at one time in Ceylon connected with a mission school. Dr. Chamberlain was for many years a member of Story County Medical Society and of the Iowa State Medical Society.

Dr. F. H. Little, Muscatine's most prominent physician died at his home in Muscatine from apoplexy, January 12, 1922. Dr. Little was born in Muscatine, 1857. Graduated from the Medical Department of the Iowa State University in 1879, and at once entered upon the practice in his native city where he had practiced forty-three years, until suddenly called to his last account. During all these years, he had enjoyed the respect and confidence of a large circle of friends and neighbors. He was active and interested in all public matters and also in professional affairs.

He was surgeon general on Governor Boies' staff for four years; was a member of the National Association of Military Surgeons, also a member of his county and State Medical Societies and of the American Medical Association. He was a Fellow of the American College of Surgeons and of numerous civic societies.

Dr. John White of Dubuque died at Finley Hospital, December 17, 1921.

Dr. White was born in Picton, Ontario, February 11, 1854, the son of Alfred and Lydia White. He was educated at the Chicago College of Pharmacy from which he graduated in 1888, and a diploma from the American College of Dental Surgery in 1891. In 1892 graduated from the Bennett Medical College and in 1907 from the Indiana College of Medicine. He had practiced in Dubuque for the past seven years.

### MARRIAGES

Dr. Warren E. McCray of Lake City and Miss Mary Ashton of Des Moines, November 28, 1921.

### A NEW LOCAL ANESTHETIC

From time to time new anesthetics to take the place of cocaine have been proposed, and to some extent used, but without utterly supplanting the

older and rather dangerous drug. Now, however, the surgeon has a substitute that is a decided improvement. The new local anesthetic is called Butyn (pronounced **Bute-in**, with the accent on the first syllable). It is the discovery of Professors Roger Adams and Oliver Kamm of the University of Illinois and Dr. E. H. Volwiler of The Abbott Laboratories, Chicago.

The anesthetic has been passed by the Council on Pharmacy and Chemistry, of the American Medical Association. In his report, Dr. A. E. Bulson, Jr., for the committee on local anesthesia, section of ophthalmology, said that it acts more rapidly than cocaine and its action is more prolonged. Less is required, and in the quantity necessary it is less toxic than cocaine. It has other advantages which make it highly useful, especially for eye work. A solution can be boiled without impairing its efficiency.

The Abbott Laboratories is supplying Butyn, in tablets (with and without epinephrin) and 2 per cent solutions, which may be had without narcotic blanks.

### DRUGGISTS AND PHYSICIANS

President George Jurisch has been in conference with some of the leading officers of the Iowa Medical Society to effect an arrangement for establishing better harmony between the two organizations. His suggestion was very cordially received and the president of the Iowa Medical Society will appoint a committee of three to meet a like committee of the Iowa Pharmaceutical Association. These two committees are to endeavor to suggest measures by means of which the physicians and pharmacists may work in closer harmony. Such a combined committee could iron out a good many of the differences that now exist between the two organizations.—Northwestern Druggist.

### BOOK REVIEWS

#### HISTORY OF MEDICINE

With Medical Chronology, Suggestions for Study and Biographic Data by Fielding H. Garrison, M.D., Lt.-Colonel, Medical Corps, U. S. Army, Surgeon General's Office, Washington, D. C. Third Edition Revised and Enlarged, Octavo of 942 Pages with 257 Portraits. W. B. Saunders Company, 1921. Price \$9.00 Net.

The study of the history of medicine offers many attractions to the physician of culture, and the physician who cannot turn to the important facts of his own profession may not expect the confidence and respect of the better educated portion of the community for his learning. The advancement of medical science is a sensitive gauge of the progress of civilization. The period from Hippocrates to Galen,



to Sydenham, to John Hunter, to Pasteur and Lister, a period of about 2300 years marks the slow and painful progress of civilization. It seems a long time for medicine to reach the scientific period, well within the recollection of men practicing today. But the scientists had not discovered the means to determine the minute organisms that produce most of the diseases from which mankind suffers, many things transpired that brought medicine almost to the point of full development. Harvey discovered the circulation of the blood, but other men came very near reaching the same point. Pasteur discovered the relation of microorganisms to disease, but others had speculated on the nature of infections. Walter Reed discovered the real cause of yellow fever but others had connected the mosquito with malaria and yellow fever.

Koch discovered the cause of tuberculosis but Villeman had noticed the infectious nature of pulmonary tuberculosis. Louis and Laennec had worked out methods of accurate examination of the lungs. Auenbrugger auscultation and percussion. Morton and Long are credited with the administration of ether for anesthesia in surgical operations. But others had made this possible. And so we may include all the great discoveries in medicine. Even Jenner received his inspiration from milk maids.

With great industry and perseverance, Colonel Garrison with the surgeon general's library at his command has worked out as far as possible the contributions of each man and groups of men in this long period of time. The work is arranged in chronological order, beginning with the earliest records of the means of healing the sick to a knowledge of disease including the progress of the science of medicine from the use of the microscope in the study of tissue changes, the study of microorganisms and their relations to disease up to the present day.

In addition to the historical data there is presented a short biographical sketch of the men to whom medicine is indebted, the nature and value of their contributions, accompanied by excellent pictures which helps us to form an idea of the intellectual qualities of the men who brought medicine to its present state.

#### EPHRAIM McDOWELL—"FATHER OF OVAR-IOTOMY" AND FOUNDER OF ABDOMINAL SURGERY

With an Appendix on Jane Todd Crawford by August Schachner, M.D., F.A.C.S., Louisville, Kentucky. Octavo Volume of About 350 Pages. Attractively Printed and Profusely illustrated with Plates in Double Tone. Price \$5.00. J. B. Lippincott Company, Publishers. Philadelphia and London.

The story of Ephraim McDowell's life is a story of the greatest interest and also of the greatest neglect to which one of the foremost heroes of medicine and benefactors of humanity has ever been exposed.

The motive of the book is to call attention to this neglect and to arouse an interest in this pioneer master of abdominal surgery.

The lessons which McDowell's ovarian surgery taught are thoroughly emphasized. The author explains how abdominal surgery gradually evolved from the facts which these lessons so clearly and firmly establish and why McDowell is credited with the title of founder of abdominal surgery.

The struggle which attended the adoption of ovariectomy and which lasted for fully a half a century is vividly set forth, and the persecutions to which the earlier defenders were subjected is of the keenest interest. It was not until 1861, or more than a half century after McDowell's first ovariectomy before a favorable word was said for it by a French professor in a French university. In England the situation was very little better as it was not until a third of a century thereafter that a London hospital could boast of a successful ovariectomy.

A fascinating review of the more important events of that interesting period and place in which he practiced is interwoven throughout the narrative. It is a review of the times and contains sketches of persons who directly or indirectly became associated with the man and his work during his own period and the period that followed.

The importance of the frontier in medicine and in the development of our national characteristics are strikingly portrayed.

The book contains the first real attempt to present a history of the heroine whose co-operation made the premier ovariectomy a possibility. This feature involved a patient and an unusual investigation that ended in the discovery of her grave in an obscure cemetery almost a century after her death.

It contains an elaborate bibliography and a carefully prepared index that makes it valuable as a work of reference upon McDowell and his time but also upon ovariectomy and the earliest efforts in abdominal surgery. It should find a place in every reference library technical or otherwise, and no surgical library is complete without this long delayed effort upon so important and such a fundamental subject.

We are under a debt of gratitude to Dr. Schachner for an exhaustive and analytic biography of Dr. Ephraim McDowell, who like many other pioneer observers and discoverers has been misrepresented and misunderstood for many years by persons seeking to gain credit thereby. But finally, the truth prevails and the credit is duly accorded. The author of this biography by a most thorough analysis has clearly shown what kind of a man McDowell was and how much is due him in laying the foundation of abdominal surgery.

The world has accepted Dr. Ephraim McDowell as the first real ovariectomist but did not know much of him except he was a frontier Kentucky country doctor.

## GENERAL PATHOLOGY

By Horst Oertel, Strathcona Professor of Pathology and Director of the Pathological Museum, and Laboratories of McGill University, and of the Royal Victoria Hospital, Montreal, Canada. Published by Paul B. Hoeber, New York.

The outstanding idea in this work appears to be the emphasis placed upon the mechanical explanation of the phenomena of health and disease. This is evidenced in the author's foreword, in which he warns that the true understanding of pathological processes cannot be attained through the "metaphysical conceptions of use, harm, defense, vital forces, conscious purpose, etc., but entirely as expressions of physico-chemical laws."

The book is not illustrated and only a few charts appear in the text, as the author considers that on account of the manner in which the subject is handled, being a discussion of pathological processes, illustrations would not at all enhance the usefulness of the work.

The various forms of bacteria are considered, not at as great length as would be necessary in a book dealing primarily with these organisms, yet giving enough space to each, to show their relations to the pathology produced and to each other.

The chapter on Immunity is very full, discussing the various phases of the subject, and the theories as to how immunity is explainable. A very clear exposition is contained in this chapter, on hemolysis and the nature of the Wassermann reaction. Of particular interest in this connection, are the views of the author in regard to the exact nature of chemotaxis and phagocytosis, showing that these are, in his opinion as well as of other writers, phenomena fundamentally dependent upon surface tension changes.

Four short chapters follow on Physical and Chemical Factors as the Cause of Disease, before taking up the consideration of subjects closely related to each other, Disposition and Idiosyncrasy, and Heredity. Oertel holds that Idiosyncrasy is a phase of anaphylaxis and that the solution of the problems of disposition, rests upon a knowledge of the principles of heredity. His ideas on the latter topic may be here quoted to advantage. "We may therefore conclude that as far as hereditary qualities are concerned, evidence points to a fixed endowment of an individual by his ancestral tree. No conclusive evidence has so far been furnished that environmental influences do, in metazoa, anything but shape and develop latent qualities and that natural selection goes beyond strengthening them."

All pathological changes are, by Oertel, grouped in two great classes, first, those occurring in local cell relations, and, second, those relating to general cell, tissue, and organ interrelations. Under local cell changes, two sub-classes are shown. Inflammation and Tumors. Under general interrelations are

classified, Disturbances in Blood and Lymph Circulation, Disturbances of Internal Secretion, and of Specific Metabolism and Fevers.

The author throughout the book discusses disease causation in broad terms. According to him, developmental processes, postnatal and retrogressive evolutionary changes are physiological when in orderly and proper relation with each other, and that the same processes become pathological when such interrelation is disturbed.

It is to be hoped that the author's contemplated volume on the diseases of special organs and systems, will be written soon.—Major H. R. Reynolds, Public Health Service.

## EPIDEMIOLOGY AND PUBLIC HEALTH

In Three Volumes. By Victor C. Vaughan, M.D., L.L.D., Volume I. Respiratory Infections. Published by C. V. Mosby Company, St. Louis, Mo.

The reader of Dr. Vaughan's book is impressed by several things which stamp it as the crowning effort of the author's pen and a monumental work on a subject in which the profession and the laity alike are showing a growing interest. We may first mention the size of the work, of which only the first of three volumes has been issued. Many medical works are voluminous but deadly dull, while here the reverse is true. In this instance the size of the book is due to the amount of inquiry into the history of the various diseases from the earliest recorded speculations as to how and why, down to the modern methods of research. Dr. Vaughan mentions the fact that every known source of information was consulted, which is amply shown by the references to, and quotations from the various medical writers. The style in which the book is written is another outstanding feature, contrasting with the uninteresting monotony before mentioned. In each disease discussed, the history is fully considered as being of interest not only in an academic sense but showing, as in the chapter on Cerebrospinal Meningitis, how and when it was gradually differentiated from the class of diseases which had formerly been grouped under the term of Typhus.

The author considers all the theories and arguments of many students of epidemiology, but does not hesitate to state very plainly his own views, with his reasons for the variance, if there be such. Another salient feature is the amount of material placed at the disposal of Dr. Vaughan and his associates, Dr. Henry F. Vaughan and Dr. George T. Palmer, through their connection with the Army Medical Corps during the World War, as well as Dr. Vaughan's service in the Spanish American War, and the experience of Drs. Henry Vaughan and Palmer in the City of Detroit.

Chapter I considers the three theories as to the causation of the classes of diseases here treated, (Continued on Adv. Page xvi)



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## BOOK REVIEWS

(Continued from Page 124)

The Theory of Supernatural Origin, The Miasmatic Theory, and The Theory of Contagion. Chapters II to IX inclusive, discuss these various diseases, while the final chapter is on Weather and Disease.

In a year marked by a revival of medical publishing, this book stands as one of the foremost productions. The issuance of the other volumes of the work will be awaited with interest and pleasurable anticipation.—Major H. R. Reynolds, U. S. Public Health Service.

## WESTERN ELECTRO-THERAPEUTIC ASSOCIATION

The fourth annual meeting of this organization will be held, as usual, in the Little Theatre, Kansas City, April 20-21. Dr. Curran Pope, of Louisville, is the president this year, and will give the annual presidential address on Thursday evening.

The program is now being made up, and will be fully up to the standard of the previous meetings held by this organization, whose watchword is progress. A number of men of national reputation will be present; among those who have responded to the invitation to read papers may be mentioned: Drs. James T. Case, Battle Creek; A. J. Pacini, Washington; T. Howard Plank, Chicago; William L. Clark, Philadelphia; Harry Bowing, Mayo Clinic; A. D.

Willmoth, Louisville; J. D. Gibson, Denver, and others. Dr. Virgil C. Kinney of New York, president of the American Electro-Therapeutic Association, and Surgeon-General Cumming of the U. S. Public Health Service, have given us a partial promise to be with us, and all indications point toward a large attendance.

The banquet will be held on Thursday evening, and a number of distinguished speakers will be on the program.

The exhibit hall will, as usual, contain the last word in equipment, and the exhibit alone will be worth a trip to Kansas City.

Dr. Grover's School of Electro-Therapy will hold its sessions, preceding our meeting on the 17, 18 and 19 of April, announcement of which will be found on another page of this issue.

CHARLES WOOD FASSETT, Sec'y.

## ANNUAL MEDICAL CLINIC

The Iowa State Medical College will hold its annual medical clinic this year on April 11 and 12. The usual program of clinics for the two days will be given and Dr. A. J. Carlson, professor of physiology at University of Chicago will give the address on the subject of endocrinology. This should be of special interest to the profession at this time and Dr. Carlson will be able to give the very latest in the line.

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ALANSON M. POND, M.D.  
PRESIDENT  
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1921-1922



# The Journal of the Iowa State Medical Society

VOL. XII

DES MOINES, IOWA, APRIL 15, 1922

No. 4

## IOWA STATE MEDICAL SOCIETY SEVENTY-FIRST ANNUAL SESSION

DES MOINES  
MAY 10, 11, 12, 1922

### Program

#### OPENING EXERCISES

Wednesday, May 10  
8:30 a. m.

Call to Order by the President—

ALANSON M. POND, M.D., Dubuque

Invocation—

RT. REV. THOMAS DRUMM, Des Moines

Address of Welcome for the City—

HON. CARLTON M. GARVER, Mayor City of Des Moines

Address of Welcome for the Profession—

ALVA P. STONER, M.D., Des Moines,  
President Polk County Medical Society

Response—

FRANK M. FULLER, M.D., Keokuk

#### SCIENTIFIC PROGRAM

Section on Medicine—

Chairman, EVAN S. EVANS, M.D., Grinnell

Section on Surgery—

Chairman, GEORGE KESSEL, M.D., Cresco

Section on Ophthalmology, Otology and Rhinologyngology—

Chairman, FRED F. AGNEW, M.D., Independence

Official Reporter—

MISS ADELAIDE FOLSOM, Ripon, Wisconsin

Wednesday, May 10  
9:00 a. m.

1. Pyloric Stenosis of Infancy—

HAROLD L. BRERETON, M.D., Emmetsburg, *twenty minutes*

Discussion opened by MATTHEW L. TURNER, M.D., Des Moines, *five minutes*

2. Market Milk from a Medical Standpoint—

FREDERICK G. MURRAY, M.D., Cedar Rapids, *twenty minutes*

Discussion opened by DANIEL C. STEELSMITH, M.D., Dubuque, *five minutes*

3. Surgery of the Thyroid Gland—

PAUL A. WHITE, M.D., Davenport, *twenty minutes*

Discussion opened by JOHN E. O'KEEFE, M.D., Waterloo, *five minutes*

4. Address of Chairman Section on Medicine: Medical Ideals—

EVAN S. EVANS, M.D., Grinnell, *thirty minutes*

5. Injuries to the Spine not Involving the Cord—

OLIVER J. FAY, M.D., Des Moines, *twenty minutes*

6. Vertebral Fractures with Cord Involvement—

JOHN W. MARTIN, M.D., Des Moines, *twenty minutes*

Discussion (papers Nos. 5 and 6) opened by WILLIAM JEPSON, M.D., Sioux City, H. C. ESCHBACH, M.D., Albia, and C. E. RUTH, M.D., Des Moines, *fifteen minutes*

Wednesday, May 10

1:30 p. m.

7. Oration in Medicine—

BERT L. EIKER, M.D., Leon, *thirty minutes*

8. Subacute Bacterial Endocarditis—

WALTER L. BIERRING, M.D., Des Moines, *twenty minutes*

Discussion opened by CAMPBELL P. HOWARD, M.D., Iowa City, *five minutes*

9. Address on Medicine—Digitalis Results in Certain Types of Cardiac Disease (Lantern Demonstration)—

HENRY A. CHRISTIAN, M.D., Professor of Medicine Harvard University, Boston

10. Muscle Rigidity: Its Diagnostic Value—

CLYDE A. BOICE, M.D., Washington, *twenty minutes*

Discussion opened by PETER A. BENDIXEN, M.D., Davenport, *five minutes*

11. Fracture of the Patella—

JASPER L. AUGUSTINE, M.D., Ladora, *twenty minutes*

Discussion opened by WHITFIELD W. HANSELL, M.D., Grinnell, *five minutes*

Adjournment

3:30 p. m.

Meeting House of Delegates

**Wednesday Evening, May 10****Social Entertainment****Thursday, May 11****9:00 a. m.**

12. A Survey of Two Hundred Cases of Pulmonary Tuberculosis—  
JOHN W. SHUMAN, M.D., Sioux City, *twenty minutes*  
Discussion opened by HERBERT V. SCARBOROUGH, M.D.,  
Oakdale, *five minutes*
13. Surgical Diagnosis of Gall-Bladder Disease—  
LAKE H. FRITZ, M.D., Dubuque, *twenty minutes*  
Discussion opened by WALTER L. BIERRING, M.D., Des  
Moines, *five minutes*
14. Some Variations in the Thoracic Content as  
Observed in the Anatomical Laboratories of the  
State University—  
HENRY J. PRENTISS, M.D., Iowa City, *twenty minutes*  
Discussion opened by CHARLES H. MAGEE, M.D., Burlington,  
*five minutes*
15. General Septic Peritonitis and Its Treatment—  
ARAM G. HEJINIAN, M.D., Anamosa, *twenty minutes*  
Discussion opened by MICHAEL J. KENEFICK, M.D., Algona,  
*five minutes*
16. Tumors of the Breast—  
WILLIAM JEPSON, M.D., Sioux City, *twenty minutes*  
Discussion opened by WM. L. ALLEN, M.D., Davenport,  
*five minutes*
17. Diagnostic Problems in the Right Upper Quad-  
rant—  
JUDD C. SHELLITO, M.D., Independence, *twenty minutes*  
Discussion opened by CHARLES S. JAMES, M.D., Centerville,  
*five minutes*

**Thursday, May 11****1:30 p. m.**

18. Chemistry and Medicine—  
PEARL E. SOMERS, M.D., Grinnell, *twenty minutes*  
Discussion opened by ROBERT L. PARKER, M.D., Des Moines,  
*five minutes*
19. Address of the Chairman of Section on Surgery—  
The Control of the Circulation—  
GEORGE KESSEL, M.D., Cresco, *thirty minutes*
20. Address on Surgery—Our Present Knowledge  
and Experience Concerning Cæsarean Section  
(Lantern Demonstration)—  
EDWARD P. DAVIS, M.D., Professor of Obstetrics Jefferson  
Medical College, Philadelphia
21. Extraperitoneal Cæsarean Section—  
NICHOLAS SCHILLING, M.D., New Hampton, *twenty minutes*  
Discussion opened by ARTHUR H. MCCREIGHT, M.D., Fort  
Dodge, *five minutes*
22. Multiple Sclerosis—  
LENA A. BEACH, M.D., Rockwell City, *twenty minutes*  
Discussion opened by CLARENCE E. VAN EPPS, M.D., Iowa  
City, *five minutes*

23. Spinal Puncture as an Aid to Diagnosis and  
Therapeusis—

JOHN F. HERRICK, M.D., Ottumwa, *twenty minutes*Discussion opened by JOSEPH W. ROWNTREE, M.D., Water-  
loo, *five minutes*

24. Differential Diagnosis between Infection of  
Bone and Sarcoma of Bone (Lantern Demon-  
stration)—

HOWARD L. BEYE, M.D., Iowa City, *twenty minutes*Discussion opened by DONALD MACRAE, JR., M.D., Council  
Bluffs, *five minutes***Thursday Evening****8:00 p. m.**

25. President's Address—  
ALANSON M. POND, M.D., Dubuque
26. Address Guest of Section on Ophthalmology,  
Otology and Rhinology—The Pros and  
Cons of Foreign Protein Injections in Affec-  
tions of the Eye—  
JAMES McDOWELL PATTON, M.D., Omaha

Buffet Luncheon and Smoker following Scientific Program

**Friday, May 12****9:00 a. m.**

27. Plastic Medicine—  
JAMES G. MACRAE, M.D., Creston, *twenty minutes*  
Discussion opened by FRANK E. SAMPSON, M.D., Creston,  
*five minutes*
28. Pelvic Infections—  
JOHN E. BRINKMAN, M.D., Waterloo, *twenty minutes*  
Discussion opened by EDWARD L. ROHLF, M.D., Waterloo,  
*five minutes*
29. Anterior Poliomyelitis: A Review of Thirty  
Sporadic Cases—  
CYRIL G. FIELD, M.D., Fort Dodge, *twenty minutes*  
Discussion opened by FRANK A. ELY, M.D., Des Moines,  
*five minutes*
30. The Postoperative Treatment of Peritonitis—  
HARRY E. PFEIFFER, M.D., Cedar Rapids, *twenty minutes*  
Discussion opened by RALPH E. KEYSER, M.D., Marshall-  
town, *five minutes*
32. Oration on Surgery—  
CHARLES E. RUTH, M.D., Des Moines, *thirty minutes*  
Report of Transactions House of Delegates—  
TOM B. THROCKMORTON, M.D., Secretary, Des Moines

**OPHTHALMOLOGY, OTOTOLOGY AND RHINO-  
LARYNGOLOGY****Chairman**

Fred F. Agnew, M.D., Independence

**Thursday, May 11****9:00 a. m.**Address of Chairman—Occlusion of the Central  
Retinal Artery— FRED F. AGNEW, M.D., Independence



## 1. Recurrent Hemorrhage into the Vitreous—

MARTIN J. JOYNT, M.D., LeMars

Discussion opened by STEPHEN A. O'BRIEN, M.D., Mason City

## 2. An Experience with Some Cases of Foreign Body in the Eyeball—

WILLIAM B. SMALL, M.D., Waterloo

Discussion opened by WILLIAM F. BOILER, M.D., Iowa City

## 3. Diminishing Accommodation, Artificially Produced—

ROYAL F. FRENCH, M.D., Marshalltown

Discussion opened by ELMER P. WEIH, M.D., Clinton

## 4. The Routine Wassermann in Ophthalmology—

HARVEY B. GRATIOT, M.D., Dubuque

Discussion opened by JAMES E. REEDER, M.D., Sioux City

## 5. Postoperative Comfort in Tonsil Cases—

JOHN E. ROCK, M.D., Davenport

Discussion opened by LLOYD G. HOWARD, M.D., Council Bluffs

## 6. Methods for Promoting Rapid Healing in the Mastoid Operation—

LOUIS L. HENNINGER, M.D., Council Bluffs

Discussion opened by CHARLES M. WERTS, M.D., Des Moines

## 7. Obstruction of the Nasal Passages, with Special Reference to the Upper Regions—

HARRY M. IVINS, M.D., Cedar Rapids

Discussion opened by WILLIAM H. JOHNSTON, M.D., Muscatine

## 8. Stridor and Dyspnoea in Childhood—

JESSE B. NAFTZGER, M.D., Sioux City

Discussion opened by HOWARD E. THOMPSON, M.D., Dubuque

## 9. The Use of the Bronchoscope and Esophagoscope—

WILLIAM W. PEARSON, M.D., Des Moines

Discussion opened by LEE WALLACE DEAN, M.D., Iowa City

Friday, May 12

8:00 a. m.

Roll Call

Reading of Minutes

Report of Committee on Nominations

Election

Report of Committees

Unfinished Business

New Business

## MEETING PLACES

Headquarters—Hotel Fort Des Moines, Tenth and Walnut Streets

General Meetings—Hotel Fort Des Moines, Ball Room

House of Delegates—Hotel Fort Des Moines, Third Floor

Eye and Ear Section—Hotel Fort Des Moines, Third Floor

Registration and Exhibits—Hotel Fort Des Moines, Mezzanine Floor

Headquarters for Ladies—Hotel Fort Des Moines

## Rules for Papers

No paper before the Society shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than once on the same subject. This does not apply to the addresses and orations.

All papers read before the Society shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done, it shall not be published.

On arising to discuss a paper, the speaker will please announce his name and address plainly.

Please remember to REGISTER.

## HOUSE OF DELEGATES

Wednesday, May 10

3:30 p. m.

Roll Call

Report of Secretary

Report of Treasurer

Report of Council

Report of Trustees

Report of Standing Committees

Memorials and Communications

New Business

Election of Committee on Nominations

Thursday, May 11

8:00 a. m.

Roll Call

Reading of Minutes

Report of Committees

Unfinished Business

New Business

## ENTERTAINMENT

Wednesday, May 10

Reception Savery III, Three to Five O'Clock, Courtesy of the Chamber of Commerce

Banquet, Hotel Fort Des Moines, Six-thirty; physicians, their wives and guests

Thursday, May 11

Studio Tea from Three to Five O'Clock for Visiting Ladies at the New Townsend Studio. Des Moines Ladies Hostesses

Theater Party for the Visiting Ladies, Courtesy of the Chamber of Commerce, 8:00 P. M.

Buffet Luncheon and Smoker following Scientific Program

Secure Your Hotel Reservations at Once—For Hotels, See Advertising Pages iv, vi, and viii

## OFFICERS 1921-1922

## PRESIDENT

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CHARLES J. SAUNDERS, M.D. .... Fort Dodge

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S. A. SPILMAN, M.D., ..... Ottumwa

## SECOND VICE-PRESIDENT

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TOM B. THROCKMORTON, M.D., ..... Des Moines

## TREASURER

THOS. F. DUHIGG, M.D., ..... Des Moines

## EDITOR

D. S. FAIRCHILD, SR., M.D., ..... Clinton

## COUNCILORS

Term Expires

First District—R. S. Reimers, M.D., Ft. Madison.....1925  
 Second District—Henry Albert, M.D., Iowa City.....1922  
 Third District—A. G. Shellito, M.D., Independence, Sec'y.....1926  
 Fourth District—Paul E. Gardner, M.D., Chairman.....1924  
 Fifth District—George E. Crawford, M.D., Cedar Rapids.....1923  
 Sixth District—O. F. Parish, M.D., Grinnell.....1923  
 Seventh District—Channing G. Smith, M.D., Granger.....1924  
 Eighth District—Samuel Bailey, M.D., Mount Ayr,.....1924  
 Ninth District—A. L. Brooks, M.D., Audubon.....1922  
 Tenth District—W. W. Beam, M.D., Rolfe.....1926  
 Eleventh District—G. C. Moorehead, M.D., Ida Grove.....1925

## TRUSTEES

J. W. Cokenower, M.D., Des Moines.....1922  
 W. B. Small, M.D., Waterloo.....1924  
 T. E. Powers, M.D., Clarinda.....1923

## DELEGATES TO A. M. A.

L. W. Dean, M.D., Iowa City.....1922  
 W. L. Allen, M.D., Davenport.....1922  
 J. C. Rockafellow, M.D., Des Moines.....1923

## ALTERNATE DELEGATES

M. J. Kenefick, M.D., Algona.....1922  
 J. H. Peck, M.D., Des Moines.....1922  
 M. N. Voldeng, M.D., Woodward.....1923

## COMMITTEES

## MEDICO-LEGAL

D. S. Fairchild, Sr., M.D., Clinton.....1924  
 Lewis Schooler, M.D., Des Moines.....1923  
 H. B. Jennings, M.D., Council Bluffs.....1922

## SCIENTIFIC WORK

Alanson M. Pond, M.D., ..... Dubuque  
 Tom B. Throckmorton, M.D., ..... Des Moines  
 Thos. F. Duhigg, M.D., ..... Des Moines

## PUBLIC POLICY AND LEGISLATION

W. W. Pearson, M.D., ..... Des Moines  
 B. L. Eiker, M.D., ..... Leon  
 D. J. Glomset, M.D., ..... Des Moines  
 Alanson M. Pond, M.D., ..... Dubuque  
 Tom B. Throckmorton, M.D., ..... Des Moines

## HEALTH AND PUBLIC INSTRUCTION

Henry Albert, M.D., Iowa City.....1922  
 Jeannette F. Throckmorton, M.D., Chariton.....1923  
 F. H. Conner, M.D., Nevada.....1924

## EUGENICS

Max E. Witte, M.D., ..... Clarinda  
 M. N. Voldeng, M.D., ..... Woodward  
 F. A. Ely, M.D., ..... Des Moines

## CONSERVATION OF VISION AND HEARING

H. G. Langworthy, M.D., ..... Dubuque  
 T. U. McManus, M.D., ..... Waterloo  
 F. E. V. Shore, M.D., ..... Des Moines

## CONSTITUTION AND BY-LAWS

V. L. Treynor, M.D., ..... Council Bluffs  
 C. B. Taylor, M.D., ..... Ottumwa  
 J. T. McClintock, ..... Iowa City

## PUBLICATION

D. S. Fairchild, Sr., M.D., ..... Clinton  
 W. L. Bierring, M.D., ..... Des Moines  
 C. P. Howard, M.D., ..... Iowa City

## FINANCE

C. P. Frantz, M.D., ..... Burlington  
 A. E. King, M.D., ..... Blockton  
 E. C. McClure, M.D., ..... Bussey

## FIELD ACTIVITIES COMMITTEE

Frank E. Sampson, M.D., ..... Creston  
 Donald Macrae, Jr., M.D., ..... Council Bluffs  
 Alanson M. Pond, M.D., ..... Dubuque

## MEDICAL LIBRARY

David S. Fairchild, M.D., ..... Clinton  
 Walter L. Bierring, M.D., ..... Des Moines  
 Oliver J. Fay, M.D., ..... Des Moines  
 Gershom H. Hill, M.D., ..... Des Moines  
 George Royal, M.D., ..... Des Moines

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Alanson M. Pond, M.D., ..... Dubuque  
 Tom B. Throckmorton, M.D., ..... Des Moines  
 Thos. F. Duhigg, M.D., ..... Des Moines  
 W. E. Sanders, M.D., ..... Des Moines  
 W. J. Fenton, M.D., ..... Des Moines

## STATE SOCIETY IOWA MEDICAL WOMEN

### TWENTY-FIFTH ANNUAL MEETING DES MOINES

Tuesday, May 9

Headquarters

Chamber of Commerce Library, Savery III

Morning Session

9:00 a. m.

Call to Order by the President—

JOSEPHINE WETMORE RUST, M.D., Mason City



## Invocation—

CARRIE M. BELL, Secretary Women's Department, Chamber  
of Commerce

## Appointment of Committees—

## 1. Social Hygiene a Public Health Factor—

LILLIE ARNETT, M.D., Waterloo

## 2. Health Examination of School Children—

MARIAN O'HARROW, M.D. (by invitation), Student Health  
Department Iowa City

## 3. President's Address—

## Annual Business Meeting

12:45 p. m.

## Luncheon—Savery Cafe

Guests of the Chamber of Commerce

## Afternoon Session

2:00 p. m.

## 4. The Toxemias—

ROSABELLE A. BUTTERFIELD, M.D., Indianola

## 5. Hyperemesis Gravidarum—

MARY L. TINGLEY, M.D., Council Bluffs

## 6. Eclampsia—

CLARA B. WHITMORE, M.D., Shanghai, China

## 7. Birth Control—

PAULINE H. HANSON, M.D., Marshalltown

## 8. Our Part in Lowering the Death Rate—

JENNIE M. GHRIST, M.D., Ames

## Evening Session

6:30 p. m.

## Twenty-fifth Annual Meeting—Anniversary Dinner

Crystal Room—Harris-Emery's

Josephine Wetmore Rust Presiding

## Our Society—

## Its Conception—

EDITH G. FOSNES, M.D.

## Its Infancy—

SARAH KIME, M.D.

## Its Adolescence—

AGNES EICHELBERGER, M.D.

## Its Present—

LENA A. BEACH, M.D.

## Its Future—

JEANNETTE F. THROCKMORTON, M.D.

## Adjournment

## OFFICERS

1921-1922

## PRESIDENT

JOSEPHINE WETMORE RUST, M.D. .... Mason City

## VICE-PRESIDENT

JENNIE M. COLEMAN, M.D. .... Des Moines

## TREASURER

ELEANOR M. HUTCHINSON, M.D. .... Woodward

## SECRETARY

JULIA FORD HILL, M.D. .... Grinnell

## COMMITTEE ON ARRANGEMENTS

JENNIE M. COLEMAN, M.D. .... Des Moines

GRACE D. CROWL, M.D. .... Des Moines

## Important Announcement

All women physicians who can arrange to attend this meeting, are requested to make their own hotel reservations early; and are also urged to make early reservations for the luncheon and dinner, with Dr. Jennie M. Coleman, 3514 Second Street, Des Moines, Iowa. As a courtesy to the speakers on the program, please be prompt in attendance at the sessions.

## OUR EXHIBITORS

Standard Chemical Co., Des Moines, Booths No. 1 and 2  
Surgical Instruments, Supplies, Chemicals

Horlick's Malted Milk, Racine, Booth No. 3  
Horlick's Milk Products

Kolynos Co., New Haven, Booth No. 4  
Dental and Surgical Supplies

Merry Optical Co., Kansas City and Des Moines, Booth No. 5  
Optical Goods, Surgical Instruments

Magnuson X-Ray, Omaha and Des Moines, Booth No. 6  
X-Ray Apparatus and Intensifying Screens

Riggs Optical Co., Omaha, Booth No. 7  
Optical Goods, Surgical Instruments

Victor X-Ray Corporation, 206 Security Bldg., Des Moines  
X-Ray Equipment and Physio-therapy Apparatus

The Radium Company of Colorado, Chicago and Denver, Booth  
No. 10  
Demonstration Use of Radium

Geneva Optical Co., Des Moines, Booth No. 11  
Optical Goods and Specialties

Lewis X-Ray Co., 514-18 Utica Bldg., Des Moines  
The wonderful advancement in X-Ray Apparatus will be  
shown in Booths No. 12 and 13

E. R. Squibb and Sons, New York, Booth No. 14  
Vaccines, Serums and Antitoxins

G. H. Sherman, M.D., Detroit, Booth No. 15  
Bacteriological Laboratories, Bacterial Vaccines

W. B. Saunders Co., Philadelphia, Booth No. 16  
Medical Books and Publications

Radium Chemical Company of Pittsburg, Booth No. 17  
Demonstration Use of Radium, and Apparatus for Adminis-  
tration

W. G. Cleveland Co., Omaha and St. Louis, Booth No. 21  
Surgical Instruments, Orthopedic Appliances, Office and  
Hospital Supplies

The Medical Protective Co., Ft. Wayne, Booth No. 23

Iowa State Medical Library, Des Moines

Ground Gripper Boot Shop, 509½ Sixth Ave., Des Moines, Booth  
No. 22

Demonstrating Ground Gripper Shoes

## THE DES MOINES SESSION

Again, another year has rolled around, and Des Moines, having been selected by the House of Delegates last year as the meeting place, is preparing to entertain the medical profession, both scientifically and socially, at the Seventy-first Annual Session of the Iowa State Medical Society. The dates of the meeting are May 10, 11 and 12. For four consecutive years, the House of Delegates has seen fit to accept the invitation of its local members, and Des Moines has been accorded the unique distinction of entertaining the profession of the state during the last four sessions. That the hospitality thus extended has been mutual, is well attested by the interest shown in the increasing number of visiting members each year and by the unfeigned pleasure afforded the local profession in having the visiting physicians among them.

### Program

As has been customary, the current issue of the Journal contains the official program. The Scientific Committee, with the generous help of the Section Chairmen, has endeavored to gather together a collection of papers to be presented by representative men, not only as contributions by members of the State Society, but by guests of national and international reputation as well.

It will be a great honor, and a tribute to Iowa medicine, to have as guests of our profession, a representative of the oldest medical college in this country, Dr. Henry A. Christian of Harvard Medical College, Boston; a representative of the only independent medical college now existing in this country; Dr. Edward P. Davis, Jefferson Medical College, Philadelphia; and a representative of one of the best known medical colleges in the Mid-West, Dr. James Patton, Medical Department of the University of Nebraska, Omaha.

None of these guests need special introduction to the members of the Iowa profession. Dr. Christian is the Hershey Professor of Medicine in the Harvard Medical College, and will deliver the Address on Medicine. Dr. Edward P. Davis, for many years, has filled the chair of Obstetrics in the Jefferson Medical College, succeeding the illustrious Theophilus Parvin, to that position many years ago. Dr. Davis will deliver the Address on Surgery. Dr. James M. Patton, as an associate to Dr. Harold Gifford, needs no special introduction as his reputation, as well as that of his Chief, long ago drifted eastward across the Missouri River and has been well established in the Hawkeye state. Dr. Patton will deliver the Address for the Section on Ophthalmology, Otology and Rhinolaryngology.

### Headquarters and Meeting Place

The Scientific Committee, acting as a result of its former experiences, has again selected the Hotel Fort Des Moines as the General Headquarters and Meeting Place of all the scientific assemblies, the

special meeting place of the Eye, Ear, Nose and Throat Section, the House of Delegates, and the Scientific Exhibit. Everything for the comfort of the physicians, their guests and friends, during the session, has been assured by the hotel management.

### Commercial and Scientific Exhibits

The Commercial and Scientific Exhibits by local, state, and national firms will be held as usual in the rooms adjoining the meeting place of the General Sessions. Here, the annual coming together and the renewal of acquaintainship between the Iowa physicians and the representatives of the various commercial firms has proven of immense value and of mutual benefit to all concerned. Each year the growing demand for exhibit space attests to the practical value of such an arrangement.

### Special Events

The Social events of the session will be conducted largely along the same lines as have prevailed in preceding years. On Wednesday afternoon from three to five o'clock, the visiting ladies will be tendered a reception at the Hotel Savery. In the evening will be given the annual banquet to the physicians, their wives and guests, at the Hotel Fort Des Moines, sixt-thirty o'clock. A theatre party will be arranged for the ladies on Thursday afternoon.

### Hotel Reservations

And last, but not least, is the usual reminder to obtain hotel accommodations early, as it is predicted that even a fuller attended meeting is in store this year, and while it is presumed that the local hostelry will amply provide for accommodations, it is always well for one to be on the safe side and secure reservations early. So come to Des Moines prepared to fully enjoy everything connected with the Seventy-First Annual Session of the Iowa State Medical Society.

Tom B. Throckmorton, Sec'y.

## TUBERCULOSIS CLINIC

The Iowa Trudeau Society, the medical section of the Iowa Tuberculosis Association, will hold a tuberculosis clinic conducted by Dr. George Thomas Palmer of Springfield, Illinois, at the general meeting place of the Iowa State Medical Society, Hotel, Fort Des Moines, Friday, 1:30 p. m., May 12, 1922.

## ARKANSAS MEDICAL SOCIETY HOME-COMING

The Annual Session of the Arkansas State Medical Society to be held at Little Rock, May 17, 18, 19, will be in the nature of a "home-coming meeting." All former Arkansas physicians, now practicing in other states, are cordially invited to be present. The meeting just precedes the A. M. A. at St. Louis, and both may be enjoyed on the same trip.

Wm. R. Bathrust, Secretary.



DISEASES OF THE BLOOD-VESSELS AS  
SEEN IN THE EYE\*

EDWARD JACKSON, M.D., Denver, Colorado

*Mr. President, Members of the Iowa State Medical Society, Ladies and Gentlemen:*

The session so far this evening has been of such comparatively intimate character and general importance that it seems too bad to turn, even for a brief time, to special points that are of interest apparently to a limited proportion of the profession. But there are so many lines of thought that are needed to bind our profession together, that too many opportunities cannot be found to bring them to the attention of all members of the profession. The gap between what we learn of pathology through the microscope or on the cadaver, and those practical questions of overshadowing importance with which we are compelled to deal every day in the living body, has always been too great, and it seems as great now as ever it was.

In calling your attention to a specialty, as seems to be my duty implied in the title of the address, I do not wish to emphasize the importance of the eye as a special field of practice, but rather to impress its importance as a special opportunity for solving problems, the solution of which will narrow and bridge this gap, between fundamental scientific knowledge and practical symptomatology as we are compelled to deal with it. The opportunities that are offered through the study of the eye in this direction are very large.

## CIRCULATORY SYSTEMS OF THE EYE

We have in the eye three very distinct blood-vessel systems: First, on the surface, the distribution of vessels that in many ways resembles the distribution of the vessels in the other mucous membranes of the body. But here the vessels are most clearly seen on account of the transparency of the tissues in this location. They are more accessible to study here, they can be studied with a microscope of 100 diameters or more, and thus things can be seen in the human body that we have been accustomed to look for in the laboratory in the web of the frog's foot or in the mesentery of an animal. We can come into close actual acquaintance with the circulation of the blood in the vessels, passing from the arteries into the capillaries and from these on into the veins, and with the corneal microscope we have at the edge of the cornea, particularly in the limbus, the best field for observation of the newly formed

vessels that follow certain corneal inflammations. We are here able to see the rush of the blood, very much resembling that in the web of the frog's foot—corpuscles hurrying along at a great rate, then pausing, going slower and perhaps stopping altogether, and then rushing on again; passing through one set of vessels more rapidly, slower in another set. That is one system of circulation in the eye.

The other two circulatory systems within the eye differ materially in certain respects. The retinal circulation is a so-called terminal circulation. The arteries divide without inosculations, each artery becoming the sole supply of a limited territory. They pass on, dividing and subdividing until they pass into the capillaries and from the capillaries the blood is gathered back into the veins, each one of which receives the tribute from its particular territory with very few inosculations. These peculiarities of arrangement are associated with marked peculiarities in symptomatology.

The third system comprises the vessels of the uveal tract, of the iris and of the choroid. Here the inosculation of different branches is a very striking feature, the vessels, from the circles of the iris anastomosing freely down to the capillaries, and there is a perfect network of large choroidal vessels that seem to open out freely into each other in all directions, very much as the capillaries do in general. With these peculiarities are associated certain differences of function.

Such circulatory systems are not only found in the eye. The terminal circulation of the retina is very closely similar to that found in the highly specialized portions of the brain. In a peculiar and minute sense, the circulation of the brain is represented by the circulation of the retina.

The effects of such distribution of blood are readily seen. Some may be alluded to here, as physiological. Most persons on looking at a blue sky, or at a uniform sky, through a blue glass, for several minutes, can begin to see the circulation of the blood in the capillaries of their own macula lutea. Bodies that become more distinct the more they are watched under proper conditions; may be seen to move from the periphery of the field toward the center, change their direction and then move away again, generally not crossing the point of fixation. Some of these will follow each other along a certain channel, evidently marking out a strictly limited path. Others will follow along a different channel and pass off in a different way, or sometimes two channels will join together.

The phenomena differ radically from what is

\*Read before the Seventieth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 11, 12, 13, 1921.

seen in the web of the frog's foot or in the limbus of the conjunctiva. These moving bodies, whatever their exact character may be, evidently represent the blood currents. They have a fairly uniform velocity, in general they rush along, following each other at practically the same rate, the phenomenon being in this different from that observed in the capillary circulation elsewhere. I take it that the significance of this is that in the highly specialized portions of the nervous system, represented in the retina and in the cortex of the brain, uniformity of nutritive supply, freedom from pulsation is of great importance to the proper performance of function. Certainly when the circulation becomes irregular in either retina or brain, function suffers.

#### PULSATION OF THE VESSELS

As we look at the circulation in the eye, the absence of pulsation is very striking, as compared with the superficial vessels and as compared with the circulation of the blood elsewhere throughout the body. In fact, in the majority of normal eyes looked at with an ophthalmoscope, which gives us fifteen or twenty diameters of magnification, we see no pulsation whatever. With higher powers the pulsation of the vessels can be detected, but it is relatively slight.

When we do see pulsation in the normal eye, as we do perhaps once in three or four individuals, it is somewhat different from the pulsation which we feel, or can witness elsewhere in the body. It is not the progress of the pulse wave, but it is an effect of the pulse wave—a remote effect, a secondary effect, under special conditions. We see the pulsation not in the arterioles, but in the veins, and in the portion of the vein that is just passing out of the eye. The pressure within the vessel is opposed by the intraocular pressure to which is added the arterial pulse wave, so much of it as gets into the eye. The addition of this pulse wave is often sufficient to overcome the intravenous resistance. At the point of the vein at which it passes out of the eye where the venous pressure is lowest, it becomes temporarily empty, and we see the venous pulse, which is caused by the emptying of the vein when the arterial pulse wave comes into the eye. That is about the only normal pulsation that is seen in the eye. This pulsation, due to peculiar factors, has a significance differing from that of the pulsation observed elsewhere.

We have a balance of forces between the intravenous pressure and the intra-ocular pressure outside the veins with the intra-arterial pressure and still other pressure that we may make on the

outside of the eye. By modifying these factors we are able to study pulsation in the vessels as it cannot be studied elsewhere.

#### BLOOD-PRESSURE IN THE EYE

About ten years ago Dr. Melville Black of Denver called attention to the importance of the circulation in the optic nerve entrance as the means of judging of the general blood-pressure. Since that time the idea has been taken up and worked on rather extensively in laboratory and in clinic, and quite successfully in France, particularly by Bailliart, who has devised a little instrument for measuring approximately the pressure to which the intra-ocular circulation is subjected. With that, a very striking and interesting series of changes in pulsation can be produced within the eye.

The intravascular pressure begins in the arterial trunks at its highest, runs down through the smaller branches and runs down still more rapidly in the capillaries, and still runs down through the veins, to the exit through them of blood from the eye. So that it is lowest in the veins, next in the capillaries, and highest in the arteries. Now, if we take an eye that does not exhibit any pulsation and press on it slightly with the tip of the finger, watching it by means of the ophthalmoscope, or press on it slightly with such an instrument as that of Bailliart, we see:

First, with a slight external pressure added to the intra-ocular pressure, the pulse wave will overcome the intravenous pressure, and as the pulse wave enters through the artery the vein becomes empty where it passes out of the eye, as it does normally in certain individuals. The first thing that appears, then, is the venous pulse, the pulse of absence of blood in the vein produced by the excess of blood coming into the eye, entering both the central retinal artery and the choroidal vessels through the ciliary arteries. Increase this pressure gradually at first and the venous pulse increases.

Press still more strongly and the venous pulsation becomes less. When intra-ocular pressure has been increased so that even in the interval between the arterial pulse waves it is higher than the intravenous pressure, the blood is forced more rapidly out of the veins, and pulsation in them may disappear. We have thus a means of roughly estimating venous blood-pressure.

Before the venous pulse has run this cycle, other interesting phenomena are observable in the optic nerve head. For observing them the normal nerve head, or one very slightly reddened by excess of capillarity, is best. The intracapillary



pressure is higher than that in the veins, and after the venous pulse has reached its maximum we begin to also shut off the supply of blood in the capillaries of the nerve head, causing a pallor. That pallor may show some variations, but it is rather a striking phenomenon. If you know how to look for it and carefully graduate your pressure, there is a positive paling of the optic disk under pressure, which means that the pressure you are making, added to the intra-ocular tension, represents the intracapillary pressure in the eye.

Continuing to increase the pressure on the eye, even before the venous pulsation disappears, and sometimes before the capillary change is noticed, you begin to affect the arterial pulse wave. The first effect is that when the arterial pressure is lowest in the diastolic interval the blood ceases to come through the artery into the eye. The intra-ocular pressure increased by the pressure you are making on the eye checks the arterial blood current and there appears an arterial pulse. That arterial pulse is at first due to a disappearance of blood from the artery during the diastolic interval between the pulse waves and the reddening of the artery again with the entrance of the pulse wave. As you increase the ocular pressure the arteries force less and less blood into the eye. The pulsation, at first becomes more striking, and then becomes less and less. Under sufficient pressure the blood is kept out of the eye, not only during diastole, but also during systole. This whole cycle of changes can be studied in any approximately normal eye. I cannot but believe that if it is carefully looked for in connection with various disease, its study will yield valuable results.

#### PATHOLOGIC PULSATIONS IN THE EYE

We have two forms of pathologic pulsations with which those who have studied ophthalmology have been familiar for many years, and which illustrate two different conditions:

(1) Pulsation of the vessels in glaucoma. There is with a rise of intraocular tension the appearance, first, of a venous pulse; and with further rise the appearance of an arterial pulse. If in glaucoma the intra-ocular tension is up to 60 mm. and the minimum intra-arterial tension falls as low as 50 m.m., there will be a very distinct pulsation of the arteries with every stroke of the heart.

(2) In certain conditions the arterial pressure during diastole falls so low that it is lower than the intra-ocular pressure. Suppose you have an intra-ocular pressure of 30 m.m. normally, and in the diastolic interval the pressure in the arteries falls to less than 30 mm., you get the same

arterial pulse as in excessive intraocular pressure. It is a very striking picture. Any one can look into the back of the eye and see it in some cases of aortic regurgitation. Occasionally opportunity occurs to see it in a case of syncope, where the arterial pressure is temporarily depressed.

#### NORMAL ABSENCE OF PULSATION

It cannot be doubted that the relatively slight pulsation of the blood-vessels in the eye is associated with the peculiarly delicate function of the retina, and doubtless it is so associated with the function of the brain. This stopping down of pulsation is produced by special mechanical factors; and perhaps by vasomotor control also, but the mechanical factors are more obvious. In the case of the intra-ocular circulations, both those of the retina and of the uveal tract, the blood enters through comparatively small openings. But the blood-vessels of the retina keep close to their blood supply, so that the rapidity of the currents is not particularly cut down. On the other hand, in the uveal tract the arteries enlarge so that the pulsation there spreads out more or less as in a lake. The somewhat rigid openings through which the vascular supply enters the eye, and the enlargements of the vessels within a rigidly closed space, probably account for the diminished pulsation.

Somewhat the same conditions exist in the cranium with reference to the circulation in the brain. We have the entrance of the carotids through a long, rigid, bony canal; or the entrance of the vertebral arteries through a similar canal. The great bulk of the cerebral circulation is supplied through such an exceptional mechanical arrangement. The tendency is for the elastic arteries outside of these rigid openings, to pulsate more violently. But after the pulse wave has passed through the rigid canal the pulsation is reduced. Of course, we have cerebral pulsation, all surgeons encounter it. We see it in the fontanelles of young children, where the conditions are not quite the same as for adult brains, but, considering the size of the arteries concerned, this pulsation is slight compared with that of other parts of the body.

I think this idea is suggestive of one of the phases of the adaptation of the circulation to peculiar requirements of nutrition, which might be followed farther; but I must hurry along to some changes equally interesting and perhaps of more general medical importance.

#### PATHOLOGIC CHANGES IN VESSEL WALLS

The changes which are visible in the walls of the vessels of the eye are quite striking. They

have been recognized ever since the ophthalmoscope has been in general use. They were first regarded as associated generally with renal disease. We now know that they occur without any renal disease whatever, that primarily they are an indication of vascular disease. While the development of vascular disease is always more or less unequal, while it may affect certain special tracts and not others, while we always see it clinically affecting particular parts of vessels, more than other vessels closely associated with them, still the tendencies to organic vascular change are general.

By examination of the very small vessels, which we can study intelligently, within the eyeball, we meet with the earliest evidences of vascular disease. Through the ophthalmoscope, we can observe the changes that have taken place in the retina; where the terminal circulation is especially affected by the change in the vessel walls, because each area of nutrition is dependent on a particular vessel; and we cannot have that particular vessel seriously impaired without getting evidence of it in impaired function. Comparing what we see with the ophthalmoscope with what we learn from measurement of blood pressure by the ordinary forms of sphygmomanometer, that which we see with the ophthalmoscope is more reliable, is more conclusive evidence of the general state of the vascular system, than the blood-pressure as taken by any apparatus that can be applied elsewhere.

I will not go much into the details of these changes, but there is a whole series of them. First, we have phenomena which are dependent on changes in the vessel walls with reference to light. We know that light is a most delicate test of structure. The changes that are produced by polarization are characteristic and widely applied in the arts. The earliest effect of vascular change is perhaps in the walls of the arteries, changing their optical effect on the light passing through them. Before this change amounts to opacity, a slight disturbance of the transmission of light interferes with seeing the underneath vessel where one vessel crosses the other. The color of the artery changes to what Marcus Gunn spoke of as "copper wire" arteries, which have a broad light streak and are often slightly contracted and straight. These changes are the earliest, the first stage in a progressive process, in regard to which we can look years ahead and see what the final result of neglect will be; or which we can modify materially by appealing to our patient and explaining the situation to him. There now resides in Denver an active business

man who, I am sure, is living today because some twelve years ago he was thoroughly scared out of his habits of work, his devotion to business, and induced to give a part of his day to golf, to take account of what he ate and drank and when and how he ate and drank by a colleague, who has himself been dead for ten years. The man has been under observation from time to time ever since, and his blood-vessels, whose walls showed very distinct alterations twelve years ago, now look better than they did then. A case of this kind is worth mentioning, because it emphasizes the importance of early detection of these changes and the practical value that their early recognition may have to practitioner and patient.

#### OBSTRUCTION IN THE INTRA-OCULAR CIRCULATION

We have obstruction of the ocular vessels from spasm. The effects of vascular spasm have been studied in other organs. As illustrating this type of vascular spasm Raynaud's disease is classic. But the actual spasm can be observed only in the eye. There it has been seen quite frequently, and under conditions that are sufficiently fixed and definite for us to learn quite a good deal about it, that we could not learn in any other way. A very striking case was reported by Dr. Harbridge in which spasm of a retinal artery led to temporary complete blindness, the attacks occurring through a series of days as often as once in forty-five minutes. Dr. Harbridge not only was able to study the case himself, but had several other prominent Philadelphia ophthalmologists witness the same phenomenon. The ordinary treatment for vascular disease had no effect. Potassium iodid was given, without result; but at the end of several days somebody suggested that the patient be freely purged with salts, which was done, and his value as a clinical illustration vanished at that time. He never had any more spasm in the vessels, but he died two or three years later with evidence of general vascular disease.

That is not the only kind of spasm found in the vessels of the eye, various types of the condition having been reported. One case described at a Vienna Clinic was watched for a month, the spasm in the arterial wall was located and observed to move slowly out towards the periphery, narrowing the wall, cutting off the blood supply and leaving only a small amount of blood in the peripheral branches of the vessel. But gradually the spasm passed off until the constricted area disappeared and the vessel became nearly its normal caliber. This occurred in a patient in child-bed, I think, shortly after the puerperal period, and there have occurred a few other cases not so



striking as that, but in which similar conditions have been studied.

Now, such changes occur in the brain. We occasionally see these spasms in the eye, temporarily blurring the sight in one eye. But what is very much more common in general and in ophthalmic practice is the so-called ophthalmic migraine, with the temporary cutting off of one-half of the field of vision, more or less. Or perhaps only a portion of the field of vision at the beginning of the attack, and gradually spreading to other parts of the field. Later in the attack this condition is followed by headache, but not always. These are cases which warrant us in assuming that in the terminal vessels of the visual tract of the brain, the same process is going on that we can sometimes see in the eye. The temporary spasm of the vessels interferes with the circulation, until function is temporarily almost completely in abeyance.

Arteriosclerosis can be studied very early in the retina. That which we call the retinal vessel is not the vessel, but the blood column in this; the normal walls are transparent. What we see is the blood column. The blood column is changed by thickening of the endothelial lining of the vessels, and that can be detected, often at a very early stage. In my experience this change is a matter of serious significance. Those patients in whom it has been most distinct have not lived many years. I remember but one patient who lived five or six years after these distinct narrowings in the vessels of the eye.

Then other conditions have been studied there as nowhere else; i. e., thrombosis and embolism. In the early descriptions of what happened in the retina and in the earlier plates that were published of the ophthalmoscopic picture, were cases of "apoplexy of the retina" so-called, a very general distribution of small hemorrhages. Now it is known that this phenomenon is not comparable to apoplexy, but is a thrombosis of one or more terminal vessels. We see it also in connection with acute disease, as in influenza. The effects of thrombosis in the retina are, of course, very striking, with great impairment of vision.

The effects of thrombosis in the choroid are very much less, in fact we scarcely know primary thrombosis of the choroid. There the free in-osculation of vessels totally changes the results of thrombosis. We have thrombosis in the choroid, when we see the vessels atrophy, become simply bands of white connective tissue, but without any preceding phenomena. This may be in a small area in the back of the eye, or it may extend over the whole of the visible fundus, following an injury or other cause for thrombosis. But it does

not cause any such symptoms or hemorrhages as we see in the retina. The hemorrhages belong to this terminal circulation. The lesions formerly called hemorrhagic infarcts, found after vascular lesions of the brain are probably caused by a venous thrombosis.

In the eye we have learned that the processes of thrombosis and embolism are closely connected in this way: An embolism in the eye is very likely to be followed by thrombosis. An arterial thrombosis starting in an endarteritis will cause closure of the vessel. Venous thrombosis may be partial, without destroying the function of the retina, and may be recovered from entirely. Cases are not at all rare in which the vision is cut down temporarily by a venous thrombosis, but subsequently is completely restored. I have a case of that kind which I see occasionally and examined not long ago. Eighteen or twenty years ago this patient had thrombosis of one central retinal vein, that I thought might render him blind very soon; but his vision again became good and has remained so.

Embolism in the retina produces blindness in the area involved, but in the choroid there are practically no symptoms. There was reported recently a case of very extensive pulmonary disease with extensive pulmonary thrombosis, where the history of the case makes it quite clear that a large embolus was carried into the choroidal circulation, and there produced changes. It did not cause any immediate destruction of sight; and the ultimate changes consisted of a few scattered points of deposit seen in the choroid. The other appearances remained normal.

#### HEMORRHAGE

There is one other symptom of vascular disease, and that is hemorrhage. We have learned a lot about hemorrhage which I cannot go into here. First, hemorrhage may be due to over-filling of the vessels, of which these retinal hemorrhages in connection with thrombosis are an instance. The hemorrhage that we see in connection with choking of the optic disk is a case in point.

Then hemorrhage may arise in connection with acute disease. We see it particularly in conjunctivitis, in which it is simply an exaggeration of extravasation. The extravasation that we look for in all inflammations simply leaves out the blood corpuscles. When the blood corpuscles are included we have little hemorrhages, which mark certain forms of conjunctivitis very strikingly.

We are learning in the eye those diseases that produce the vascular changes which are at the

bottom of hemorrhage, and in general, of the two factors, change in blood composition and change in the blood-vessel walls, the light thrown upon the subject of hemorrhage in the eye indicates that the latter are immediately connected with the hemorrhage. We can conceive that these blood-vessel changes are dependent on changes in the composition of the blood; but these changes in composition have not been letting the blood out into the tissues, until they have caused disease of certain points of the vessel walls, through which the blood passes out. With the ophthalmoscope, the source of hemorrhage may be identified, and other parts of the same vessel seen to remain absolutely free from hemorrhage.

In this way the connection of hemorrhage with certain general diseases has been fairly worked out. With syphilis there is comparatively little hemorrhage. In certain conditions studied in the eye we see extensive changes in the vessel wall, but hemorrhage is not a common symptom. Hemorrhage is practically a universal symptom of vascular tuberculous disease. In acute infections hemorrhage is to be expected with vascular changes, and particularly in influenza. And perhaps of almost equal importance, although this cannot as yet be accurately estimated, are the various focal infections in causing intra-ocular and presumably other hemorrhages.

Much more might be said of the changes that we can observe in the living eye during the absorption of hemorrhage, or the organization proceeding in it. But I have already presumed too long upon your patience.

## RETINAL CHANGES IN CARDIO-VASCULAR AND RENAL DISEASES\*

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When requested by our chairman to present a paper before this section, I hesitated at some length before determining the subject I have chosen. What prompted me to select one of this nature, that is a subject which so much has been written upon, was due to the fact of some recent experiences with the internists which led me to the conclusion there should be more cooperative work between the ophthalmologist and the internist, as only recently I was asked to report the fundus finding in a patient suffering from diabetes, the fundi showing a retinitis superimposed upon a low grade sclerosis although the blood-

pressure was normal and all other physical signs negative pertaining to a beginning sclerosis.

Therefore I hesitate to say but somewhat of the belief that some men use the terms arterio-sclerosis and high blood-pressure synonymously, but one should keep in mind the first is a pathological entity, the latter the result.

For we have all seen cases where there was marked hypertension and no changes in the fundi, while in some of the very advanced changes there was no hypertension.

Therefore I think the internists should be familiar with these changes such as, increased tortuosity of the retinal vessels broadening of the light streak. The cupping of the veins as they cross the sclerosed arteries with more or less of a varicosity of the distal end.

The œdematous condition of the retina with irregular shaped hemorrhages and occasional exudates.

The œdematous condition is recognized by a fluffy appearance of the retina. The hemorrhages as a rule are near a blood-vessel.

It has been shown recently that senile chorioiditis is simply due to the gradual shutting off of the blood supply around the macule due to arteriosclerosis.

In cases where the pigment has been absorbed the choroidal vessels may show a marked tortuosity, just why some cases show more change in the retinal vessels and others in the choroidal vessels is not known.

There is no questioning the fact the eye is one of the most important organs from the standpoint of diagnosis.

Therefore I feel that all cardio-vascular renal or nervous cases should have a proper ophthalmoscopic examination. As quite often an undetermined diagnosis may be cleared up.

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I recall a case of about one year since a man age sixty-five consulted me complaining of blurred vision and was unable to get a correction which would clear up his poor vision. The ophthalmoscopic examination showed advanced arterio-sclerosis. He stated he had never been ill and enjoyed the best of health at that time.

He was advised to consult an internist who found marked increased vascular tension along with chronic interstitial nephritis. This patient died in less than thirty days from apoplexy.

As has been stated we have all seen cases of sclerosis of the retinal vessels when clinically there was no general manifestations of a general sclerosis. Although men like Hertel and others with both clinical and pathological evidence that

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the retinal vessels pre-supposes with certainty a similar state in the cerebral arteries but not the reverse in a number of cases of pronounced vascular disease in the brain the ophthalmoscopic condition was normal. The retinal arteries are furthermore end arteries just as are the cerebral blood-vessels which supply the basal ganglia and are equally exposed to increased blood-pressure in the internal carotid artery. Raehlmann whom we owe the first careful compilation of this subject relative to general arteriosclerosis found in about 50 per cent of his cases, changes in the retinal vessels. In general according to Raehlmann, Friedenwald, Hertel and others changes in the retinal vessels occur in those cases of general arteriosclerosis in which the large cerebral arteries are particularly involved. Arteriosclerotic changes may affect either the arteries, or the veins or both and only a small area involved.

It is this class of cases one should be on the lookout for and be seen by the internist for it is only a question of time until in all probability symptoms will develop.

I had this impressed upon me while in the service, as in our routine work of refraction an ophthalmoscopic examination was made, and often the question was asked did he have a fundus examination when he had his last examination? It was surprising the amount of negative answers.

Microscopic changes in the retinal vessels of advanced arteriosclerosis have been found, which could not be observed with the ophthalmoscope.

Functional disturbances in the retina does not occur until vessel-closure exudates, or hemorrhages have taken place.

The certain diagnosis of arteriosclerosis of the retinal arteries, the vessel walls must be outlined with white lines and distinctly thickened, the lumen must be narrowed up to the point of ischemia and complete obliteration. In the earlier stages the diagnosis can only be made when arteriosclerotic changes have led to arterial occlusion through thrombosis, as in the picture of closing of the central artery, when the above is found one need not hesitate to assert himself as to the prognosis of the case.

Relative to prognosis, I only wish to quote Gei's reports on seventeen cases of sclerosis of the retinal vessels; all seventeen cases died within four years.

Vascular changes in the retina, due to syphilis, have not the same gross prognostic significance as the arteriosclerotic changes have.

Retinal hemorrhages, if they are not due to local diseases or abnormal blood conditions, occur when the vessel walls are brittle. These vessel

changes may not be recognizable with the ophthalmoscope, although those isolated hemorrhages which occur in the macular region do not seem to have the same general significance as the hemorrhages which occur elsewhere in the retina.

This also applies to syphilis. Albuminuric retinitis aside from the usual picture in this disease, we may find superimposed isolated retinal hemorrhages which are due to a sclerosis. In this condition, according to Gei's apoplexies are to be expected and in the cases he followed up they always occurred.

Thrombosis of the veins occurring in cases with albumin in the urine should be differentiated from cases of albuminuric retinitis, and isolated retinal hemorrhages occurring in nephritis, as this is important when it comes to prognosis.

In diabetic retinitis, we find more frequently definite changes in the vessel walls, this no doubt is due to the increased vascular tension which occurs in a large percentage of these cases.

In conclusion I wish to mention vascular spasm.

It seems to me this is a phase of the subject that is too often passed by and not the proper significance given it.

Just recently I had an interesting experience, a woman, married, age thirty-five, referred to me on account of sudden obscuration of vision right eye, which would last from a few seconds to a minute or so. Fortunately I observed her in one of these attacks and observed a marked constriction of the retinal vessels, otherwise no fundus changes. Vision right 20/30, left 20/20. She was referred to an internist who found a moderate increased vascular tension with a low grade nephritis.

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## PNEUMOCOCCUS PERITONITIS\*

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The surgeon still continues to meet with some cases of peritonitis in his practice, although the number met with each year becomes lessened. The number met with by any individual surgeon of pneumococcus peritonitis up to the present time has been limited. During the years 1918 and 1920, two cases of pneumococcus peritonitis have come under my observation and which furnish the basis for the following remarks.

**Case I.** Dorothy G., age two and one-half years, entered St. Elizabeth Hospital, March 15, 1918, referred by Dr. Finney. Her previous history was negative excepting that she had recovered from a lobar pneumonia which had its onset three weeks previously. The temperature had been normal for more than a week, and three days previous to her entrance into the hospital she complained of abdominal pain; some vomiting and diarrhea were present. The temperature upon her admission was 104 degrees F., the pulse 140. Upon examination the right rectus revealed a slight rigidity with the evidence of a moderate tumefaction subumbilical and to the right. The blood revealed a leucocytosis of 28,000. A diagnosis of a perforated appendix was made. Upon opening the abdomen a seropurulent fluid, odorless, of a yellowish-green color appeared. The coils of intestines were injected. Upon bringing the appendix to view I was surprised to find it normal in appearance. It was deemed advisable to remove it as the patient was not subjected to any marked additional danger in its performance. Some of the material was taken for bacteriological examination. Tube drainage was used and the usual treatment for peritonitis was instituted, i. e., Fowler position and proctolysis. The first few days of the patient's convalescence were somewhat stormy and excepting for a spell of crying a week later when an evisceration occurred and which necessitated resuture of the abdominal wall, complete recovery ensued. My laboratory reported an unmixed presence of pneumococci organisms which agreed with the report of an examination of the same material sent to the State Hygienic Laboratory at Madison.

**Case II.** Anita V., Medina, Wisconsin, age five, referred by Dr. Ott, entered St. Elizabeth Hospital,

January 18, 1920. Her health had been normal up to four days previous to the onset of her present illness. The illness began suddenly with a high temperature, vomiting, frequent bowel movements and pain in the lower abdominal region.

Upon examination the little patient was found to be intensely ill. The temperature was 105.4 degrees per rectum, pulse 150, and evidences of a severe toxemia were present, as manifested by a slight cyanosis and some dyspnea. The abdomen was not markedly rigid, yet there was present a right subumbilical tumefaction. The leucocyte count was 40,000 with a marked preponderance of polymorphonuclears. It was evident that a peritonitis existed but with an obscure origin. The present symptoms were incompatible with those produced by a perforation of an intra-abdominal viscus. A peritonitis of pneumococcus origin was thought of for the information obtained in our experience with the previous case was still vivid in our memory. An abdominal exploration was deemed advisable, and to which she was subjected. Upon opening the abdomen a marked amount of seropurulent fluid, yellowish-green in color and odorless appeared. It was then plainly evident that we were dealing with the same condition as in the previous case reported. Some of this exudate was taken for bacteriological examination. The reports of the State Hygienic Laboratory by Dr. Stovall and my own laboratory were agreed as to an unmixed strain of pneumococcus. It was not typed. This little patient had a most stormy convalescence, but she finally recovered and was dismissed from the hospital March 27, 1920. During this period it was necessary to make a suprapubic incision to give exit to an accumulation of pus which developed in that region. A few days later a pneumonia appeared in the right lower lobe which resolved. Following, an acute nephritis appeared which subsided after a week. Metastatic abscesses then appeared in various parts of the body which were incised and the contents evacuated. An autogenous vaccine was made and used assiduously, but with apparently no avail. The condition of the little patient was truly alarming for it appeared that she would not recover. Her emaciation was most extreme. As a final resort it was thought to use heliotherapy, "With nothing to lose and everything to gain." The little patient was therefore subjected to the sun's rays in a nude condition and with the most happy results for within a very few days convalescence appeared and her full recovery ultimately ensued.

There is no doubt that this disease has a clinical entity which is characteristic.

Summary of cases reported:

Von Brunn in 1903, collected fifty-seven cases of pneumococcus peritonitis in children and fifteen in adults; by 1906, Annand and Bowen state ninety-one cases were recorded mostly in children. Additional cases to this list are recorded by C. R. Belgrano, *Reforma. Med.* April 7, 1917;

\*Read before the Annual Assembly, Tri-State District Medical Society.



four cases by Abt. A. I., N. Y. M. J. April 28, 1917; one case by Meredith, E. W., P. M. J. 1918; one case by MacWilliams, H. H., Brit. M. J. February 22, 1918; one case by Edwards S. R. and Noble F. B., J. Ind. M. A. April 1, 1920; and the two cases occurring in my own practice, making a total of 102 cases.

Syms in a careful review of the literature of pneumococcus peritonitis states:

"It is a disease particularly affecting children. Up to the fifteenth year of age it is three times as prevalent as after that period.

"It is much more frequent among girls than among boys in the proportion of three to one.

"It may occur (1) as the only local manifestation; (2) as a sequel to some previous site of pneumococcus infection, i. e., lung, pleura, pericardium, ear, etc., or (3) as a part of a general septicæmia in which other organs are simultaneously involved.

"It is found in two varieties: (1) As a diffuse general peritonitis and (2) an encysted or localized process. Some claim that these two conditions represent stages of the disease, and that there is always a diffuse peritonitis at first which later becomes localized by intestinal adhesions. Others (Michaut) claim that there are two distinct varieties of the diffuse."

Upon the other hand some writers contend these varieties are produced by a difference in the virulency of the same organisms, and so are distinct types.

Again quoting Syms:

"The first stage is that of toxæmia, the child being overwhelmed by the poison. There is a great depression and the patient is much more ill than the abdominal symptoms would indicate.

"The second stage is characterized by abdominal symptoms; the signs of advancing peritonitis.

"The third stage is characterized by a continuance of the signs of peritonitis with effusion. During this period there is often an abatement of the active signs of toxemia. The temperature may fall and the patient may seem decidedly less ill. If the pus has become encysted or localized there will be signs of intra-abdominal abscess or abscesses. The abdomen becomes distended; this particularly relates to the lower part of the abdomen, for the disease is usually subumbilical. When loculation has taken place there is usually an irregular swelling of the abdomen, one side being affected more than the other. One characteristic of the disease in its late stages is the protrusion of the umbilicus and its final perforation. There have been many reports of the dis-

charge of pus through the umbilicus and this seems to be a condition almost peculiar to the disease. The discharge will be of the characteristic greenish-yellow, serofibrinous, odorless pus.

"Hector Cameron states his position very clearly when discussing the question of treatment. He regards the diffuse form of peritonitis as belonging to the early stage and not as representing a distinct type of the disease.

"Whether diffuse pneumococcus peritonitis is an early stage or a special form of the disease, the fact remains that it represents the period or condition of the utmost gravity. Annand and Bowen, analyzing ninety-one cases that had been bacteriologically studied and satisfactorily reported, found in the diffuse form a mortality of 86 per cent. In the same series of cases in the encysted form there was a mortality of but 14 per cent.

"In the same article Annand and Bowen describe sixteen cases which had occurred in the East London Hospital for Children. All of the sixteen of these cases were of the diffuse variety. Death resulted in all sixteen, showing a mortality of 100 per cent."

*Etiology*—Abt states: "The disease represents a specific infectious process, but the route is difficult to establish. Two groups are recognized: (1) the primary or idiopathic; (2) the secondary, in which the peritonitis is subsequent to some pre-existing pneumococci lesion elsewhere, pleuropneumonia being the most common, and otitis media the next distinctive type is justified, although this path of invasion is obscure."

Fishbein in his clinical article on "The Bacteriology of Peritonitis" states, "The anatomical character of the inflammation does not bear any relationship to the nature of the primary lesion when such exists, nor does it seem to be influenced by the presence of various bacteria alone or in combinations of various kinds. Various bacteria or the same bacteria cause the same or different forms of peritonitis."

*Symptomatology*—The disease presents a clinical picture that is characteristic and which should lead to diagnosis in the most primary cases. Its characteristic signs are sudden onset, extreme toxemia, vomiting and diarrhœa, very high temperature, and a very high leucocytosis with a high polymorphonuclear count. There is a notable absence of local pain, local tenderness, and local rigidity as compared with appendicitis or perforation peritonitis. Some have described the abdomen as having a "doughy" feel. Added to all this is the pneumonia aspect, cyanosis, slight dyspnœa, great depression, etc.

*Diagnosis*—A correct diagnosis of this condi-

tion is all important. We must decide whether the case is or is not one of pneumococcus peritonitis and if it is pneumococcus whether it is diffuse or encysted as operation is not indicated in the former, but decidedly so in the latter. The important points in the diagnosis are sudden onset, with no prodromal symptoms, the presence of an extreme toxæmia and depression. It is often ushered in with a chill. High temperature is characteristic with a very high blood count, from 20,000 to 40,000. Diarrhœa may appear early or be developed in a day or two. Peritonitis with diarrhœa should always make one suspicious of pneumococcus. Early drowsiness, restlessness, and delirium point to the involvement of the nervous system from the intense toxæmia, a condition we frequently find in pneumonic affections of the lungs. In pneumococcus peritonitis the constitutional symptoms overshadow the abdominal findings in contradiction to the early stages of a perforative appendicitis. There is no distinct point of tenderness. The abdomen has a peculiar "doughy" feel. The presence of fluid may be determined and is usually subumbilical and unilateral. A blood examination is of the utmost importance as it may reveal a bacteræmia.

J. Dubs states: "Pneumococci have been found in the urine even from the earliest phase of the peritonitis." Upon opening the abdomen evidences of a peritonitis are found with no local point of origin. The appearance and character of the exudate consisting of an odorless, seropurulent, yellowish-green color, containing a great amount of fibrin is significant.

*Treatment*—Most operators are agreed that an expectant treatment is to be pursued in those cases of pneumococcus peritonitis of the diffuse variety; this treatment should be open air, heliotherapy, supportive, proctolysis, and the Fowler position.

Operation is indicated and advisable where the exudate has become loculated, and where the extreme toxæmia and depression have subsided. The dictum of J. B. Murphy still holds good, "Where there is pus, evacuate—get in quickly and out hurriedly." Serum treatment has a legitimate use here as elsewhere in the body in pneumococci peritonitis.

#### CONCLUSIONS

1. Pneumococcus peritonitis is a disease of childhood affecting principally girls.
2. Its onset is sudden, manifested by a severe toxæmia, and a very high mortality.
3. Two forms are distinguishable (1) diffuse,

(2) encysted or loculated.

4. The symptomatology is characteristic.

5. Treatment is (1) expectant and supportive, (2) surgical.

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## DIAGNOSIS AND TREATMENT OF INFANTILE PARALYSIS\*

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In surgery as in other fields an ounce of prevention is more valuable than a pound of cure. Ninety per cent of the deformities following infantile paralysis are wholly preventable. I therefore am going to take the liberty of recalling to your attention the present methods of diagnosis and treatment of this disease.

I will not go into history, etiology or prophylaxis more than to note that the disease was first recognized as an entity by Jacob von Hienle in 1840, and its epidemic character demonstrated by Medin in 1887. The causative agent has been well proven in recent years by Simmon Flexner as a filtrable ultra-microscopic organism which usually gains entrance to the body through the nose and throat, is found in the lymph channels, the spinal fluid, and the gray matter of the brain and cord, but not in the circulating blood. The infectivity has not yet been definitely determined but from recent experiments it would seem that the danger of infection has practically ceased within six weeks of the first symptoms. From the standpoint of prophylaxis the experiments of Amoss and Taylor tend to show that during epidemics or after exposure the danger of contracting the disease is considerably lessened by sprays and gargles. The pathology in the acute stage is a dry hyperemia of the pia arachnoid which under the microscope shows small round cell infiltration about the meningeal vessels and extending into the fissures of the cord. On section of the cord proper the cut surface bulges, appears moist and with the gray matter so hyperemic as to resemble a red letter H, although in less severe cases the redness is limited to the anterior horns. On microscopic examination there is a small round cell infiltration throughout the entire myelin tissue and although the gray matter is more affected than the white there is no portion of the cord which entirely escapes. The motor ganglion cells of the anterior horns are affected by the intense infiltration and later in the disease they disappear and are replaced by glia tissue. Ganglion cells which have necrosed never regenerate although those less seriously injured undergo partial or complete restoration. The cervical and lumbar swellings of the cord are the areas chiefly affected and the actual destruction of cells is usually limited to the motor ganglion cells in the anterior horns. While ordinarily the cord is the

most affected, in fatal cases lesions of the medulla, pons, cerebellum, and even cerebrum sometimes exist. In the chronic stage the cord pathology consists of areas of scar tissue and atrophy in the anterior horns, but in the chronic stage pathology is not limited to the cord but affects also the muscles, tendons, bones and joints. Muscular changes consist of a rapid atrophy and degeneration with apparent fusion of fibers so that the individual ones cannot be differentiated, and in long standing cases the muscle is changed to an apparent small band of connective tissue. The tendons atrophy in size and power due to disuse, the bones show osteoporosis, become delicate and brittle, and do not grow either in length or thickness to correspond to the sound side; and the joints become relaxed, unstable, abnormally mobile, and easily subject to subluxation and dislocation.

The symptomatology may be somewhat complicated but in the usual case after an incubation period varying between two days and two weeks irritability, malaise, weakness, dizziness and vertigo appear, attended by more or less ataxia which is accompanied by frequent falls. This ataxia is present in most cases and most patients will give a history of a fall or falls with subsequent paralysis, blaming the paralysis on the fall when as a matter of fact the fall was due to the paralysis. The onset is usually accompanied by fever, rapid pulse and respiration, gastrointestinal irritability and symptoms of cord disease, manifested the first and second day by headache, tremors, incoordination, ataxia, convulsive movements, strabismus, opisthotonos, hyperesthesia of the extremities, and any or all of the other symptoms of meningeal irritation. The reflexes are usually exaggerated at the onset, to disappear entirely later in the disease as the paralysis develops.

The paralysis is discovered in severe cases after the subsidence of the stormy initial symptoms. On the other hand, the onset may be so mild that it is unnoticed, as in a case of a child who retires in a normal condition and is discovered to be paralyzed in the morning. However in most of these mild cases, one will get the history of one or more falls the preceding day showing that ataxia at least has been present. The paralysis is confined to the motor system alone and advances with great rapidity, usually reaching its height in a few hours.

I wish to point out some of the peculiarities of the paralysis in poliomyelitis. First the paralysis is sudden in onset with a history of a fall or falls which in themselves were not sufficient to produce a cord lesion. Second the paralysis is

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entirely motor in type, and almost never follows the distribution of any one nerve or nerve trunk. Third, the fingers and toes are usually the last to be affected, and entire leg for instance, lying helpless except that the patient can slightly move his toes. Fourth, the patient is usually a child and children are not often attacked by the other common cord diseases. Diagnosis is easily arrived at, for it will be seen that a motor paralysis, not following the distribution of any nerve, or nerve trunk and without loss of sensation is almost invariably infantile paralysis. The early diagnosis is very important to the patient for the immediate application of the proper treatment will greatly increase his chances of becoming a useful and self-supporting member of society.

The treatment of infantile paralysis divides itself into the treatment of its stages, the acute, the convalescent and the chronic.

The acute stage is that from the onset to the disappearance of the tenderness and calls for the same treatment that any other acute disease of childhood should receive.

The convalescent stage begins with the cessation of tenderness and extends usually for about two years, during which period, we may expect a progressive improvement in strength and function under conservative treatment, and during which time operative interference should not be carried out, except the lengthening of shortened tendons in selected cases. The treatment of the convalescent stage attempts to restore voluntary muscular power and to prevent deformity. The greatest single factor in the treatment of paralyzed muscles is rest, in the position of neutral muscle pull so that the paralyzed muscle will not be subjected to a constant stress by being opposed to healthy muscles. This rest is best secured by comfortable splints or light plaster casts. Splints are to be preferred, for with removable splints we are able to carry out other valuable therapeutic agents.

In the average untreated case a paralyzed muscle opposed to a healthy muscle becomes stretched and attenuated, while the opposing healthy muscle becomes contracted and shortened. A common example is the shortened tendo Achilles with a consequent equinus following paralysis of the tibialis and peroneus groups. All such contractures are wholly preventable and mean that the child has not received proper care.

The most valuable factor next to rest, is painstaking thorough daily massage, accompanied by passive motion. As the paralyzed muscles begin to resume their function, guarded active movements should gradually supplant the passive ex-

ercises, great care being taken to guard against fatigue.

Yet another valuable adjunct in our treatment is heat, which should be applied for several minutes daily just before massage. The form of heat applied is not of paramount importance, although the sun bath is preferable, electric baths, hot water bottles, etc., will serve the purpose admirably. The patient should receive heat treatments just prior to massage, because the heat bath will flush the muscles with fresh blood.

Electricity in its various phases, faradism, galvanism, high frequency, diathermy, sinusoidal, etc., have been much lauded at different times. We cannot say that these methods are worthless, but carefully controlled experiments would seem to cast a doubt on their positive action and certainly all the methods above are of infinitely more value. However, if the means of applying these currents are at hand, it surely would do no harm, and may do some good to use them.

In summing up the treatment of the convalescent stage I wish to emphasize and reemphasize the great importance of rest in a neutral position. By this means not only are deformities prevented but a muscle temporarily paralyzed by the inhibition of its lower motor neuron, is not so stretched and weakened that if later the neuron is again able to assume its function, it would find not a few stretched, anemic, muscle cells to receive its impulse, but would find a muscle at least near normalcy. Massage, careful exercises, heat, and electricity, have their places but of greater importance than all of these combined is rest.

The treatment of the chronic stage is mostly operative and is of two types, operations for the correction of deformities, which have developed as a result of neglect during the convalescent stage, and, second, operations designed to improve function. Of the operations to correct deformities, the various tendon lengthenings such as Steindler's operation for pes cavus, lengthening of the tendo Achilles, lengthening of the hamstrings, Soutter's operation for relief of contracture of the thigh, etc., are the most common. Plastic bone operations are not often needed to correct deformity although in a bad club foot, pes calcaneus, etc., a bone plasty is sometimes essential.

The operations to improve function consist of the tendon transplants and the arthrodesis of joints. Of the several score of tendon transplants in vogue some years ago, only a few stood the test of time, and of these, probably the most satisfactory, is the physiological transplant of the



healthy tendon of the extensor longus hallucis for the paralyzed tendon of the tibialis anticus to correct a paralytic drop foot.

The arthrodeses attempt to stabilize flail joints. The ones most useful are, arthrodesis through the ankle, arthrodesis of the wrist, to counteract a drop hand, and arthrodesis of the shoulder, to allow unparalyzed scapular muscles to supplant paralyzed humeral groups. It will quite often be found that both types of operation will be necessary on the same patient. In such cases the operation to correct deformity and the operation to improve function may sometimes be done at the same time, but it is usually advisable to first correct the deformity, following this by several months of conservative treatment. Not uncommonly after this procedure the operation to improve function is unnecessary.

In conclusion I wish to repeat:

1. That poliomyelitis is a disease of the central nervous system characterized clinically by a motor paralysis not following the distribution of any nerve trunk.

2. That its early diagnosis is not difficult and is essential to the future well being of the patient.

3. That the most important weapon in its treatment is rest of the paralyzed muscles.

4. That under proper supervision we will have few deformities, and we will further have a surprisingly large per cent of apparently paralyzed muscles again assuming some degree of function.

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## ACUTE INFECTIONS OF THE ABDOMEN\*

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It has been truthfully stated that there is nothing new under the sun, and surely, considering the numerous articles written daily by the many contributors to medical and surgical literature, it would seem that all the important points on every subject had been sufficiently touched and re-touched as to leave no more room for discussion; and it certainly remains for only a very few to be able to present anything new in his line of endeavor. However, it is equally true that in medical and surgical practice many well known points are so important, and regardless of importance so frequently disregarded or overlooked, that we can still profit by going over old ground.

So it will be the purpose of this paper to go over a little old ground and briefly emphasize

some well known points in connection with the subject of "Acute Abdominal Infections," because I believe that in this class of cases more than in any other, mistakes in diagnosis and treatment are frequently made on account of the failure to apply certain well known and established principles rather than a lack of knowledge of these principles, and on account of failure to apply this knowledge at the proper time.

The etiology and pathology will not be considered, but just a few points in the diagnosis and treatment of these conditions will be discussed.

Acute abdominal infections may be divided into two groups or classes, viz: cases that are primarily abdominal infections, such as appendicitis, acute cholecystitis, pelvic infections, etc., and cases of infection of the abdominal cavity coming on secondary to or caused by other diseases, such as perforating typhoid ulcers, gastric and duodenal ulcers, etc., where perforation and injection of infectious material into the abdominal cavity has supervened during the course of another disease. More rarely cases are now and then seen such as phlegmonous gastritis. Perforations of the uterus following abortion and curettages are not uncommon factors in producing acute abdominal infections.

The most important point for emphasis is that in all these cases of either class, but more especially of the second, time is invariably the most important factor of all in the successful treatment. In no other class of cases is it more important for the surgeon to be alert and ready to weigh the minutest evidence in his decision as to diagnosis and treatment. The mortality in such cases as perforating typhoid ulcers and gastric and duodenal ulcers depends directly in an almost definite ratio to the length of time from the onset to the time of surgical interference.

While careful consideration of the cardinal signs in diagnosis of acute abdominal infections usually leads to correct early diagnosis in the average case, in some cases this is by no means easy, and the extreme necessity for correct early diagnosis and treatment makes some of these cases most trying. However, failure to properly diagnose these cases early is usually due to failure to recognize well known symptoms, and by far too often even yet, is the surgeon called upon to operate upon a case of purulent peritonitis, as much as a week or ten days after a ruptured gangrenous appendicitis that should have been nothing more than an acute appendicitis.

Within the last year I was called in consultation to see a child of seven or eight years who was moribund, that the physician had been treating

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with enemas and purgatives. This little unfortunate patient died about one-half hour after I entered the house, an autopsy revealed an abdomen literally filled with pus from a ruptured gangrenous appendix. It is absolutely certain that careful abdominal examination two or three days previously would have revealed a rigid right rectus muscle and local tenderness enough to make a diagnosis of appendicitis in time for proper surgical treatment. The disappearance of pain, as is often the case in some of these cases, blinded the physician to the necessity of a careful abdominal examination until the case was incurable.

We should think of most cases of purulent peritonitis as preventable diseases, and they are preventable in the proportion to the watchfulness and observation of cardinal symptoms on the part of the attending physician, rather than the surgeon, who usually sees the cases after the diagnosis has been made by the attending physician, and successful surgical treatment depends directly on the time the diagnosis has been made, hence the importance of a knowledge of these signs on the part of the general practitioner as well as the surgeon. It is just as negligible and fatal to fail to carefully examine the abdomen of every patient, no matter how young or how old, in which there are suggestive symptoms relating to the abdomen as it is to fail to carefully examine the chest of a patient who has a persistent cough to ascertain the presence or absence of tuberculosis. Yet this is of too frequent daily occurrence. It is not the typical case that we should be on the lookout for, but rather, the atypical ones.

The first symptom of an acute infection of the abdomen is usually pain. This is usually diffuse, gradually becoming local over the site of the inflammation. Then follows nausea and vomiting, rise of temperature, rapid pulse, coated tongue and later distressed facial expression and increased leucocyte count. Examination reveals tenderness and muscle rigidity over the site of inflammation. These signs are all well known and should need no comment except to emphasize the necessity of more care in looking for and recognizing them in time. Justifiable errors are often made by competent physicians in some cases of perforating gastric and typhoid ulcers, but by more care and watchfulness in cases of typhoid and careful consideration of previous history in gastric and duodenal ulcers, fewer mistakes would be made and earlier surgical treatment instituted. The leucocyte count is very important in diagnosing these cases, a sudden definite increase in the count being a signal for careful in-

vestigation. It is sometimes difficult to differentiate between some cases of acute infections of the abdomen, such as appendicitis, and gastroenteritis in children, intussusception, typhoid fever and some diseases of the chest with pain and rigidity of the abdomen, renal calculus and others, notably gastric crises. In some cases of gastric and typhoid ulcers, diagnosis is difficult, but careful examination and application of well known principles of diagnosis will usually reveal the correct condition in most cases. In some cases exploratory laparotomy becomes advisable rather than waiting until late symptoms develop.

Little is necessary to be said about treatment of these cases. Early surgical interference in every case of acute abdominal infection is of course necessary. The earlier surgical interference is instituted the better. The abdomen should be carefully opened and in every case where acute infection is suspected, healthy peritoneal surface should be carefully walled off from the suspected area of infection, as the first step of the operation before the suspected area of infection is disturbed.

This point should hardly need emphasis but it is too often carelessly disregarded on account of unnecessary haste and carelessness. If in doubt as to the presence or absence of pus at the beginning of a laparotomy, the golden rule should be to assume that there is pus and carefully wall off healthy tissues before taking the chance of spreading infective material from a ruptured abscess to healthy peritoneum. Safety first is an excellent guide in these doubtful cases and will spell success in many cases if always adhered to. I consider no other procedure or rule as important as this in the operation of any infected abdominal case. Another point of importance is to operate as rapidly as is consistent with careful surgery, and in extreme cases to do as little as necessary to save life when in the presence of shock and an extremely sick patient. Thorough drainage of abscesses, removal of the focus of infection whenever possible if consistent with safety to the patient, and proper after treatment are the general rules of surgical treatment. Quieting of peristalsis by withholding food, stomach lavage, proctoclysis and hypodermoclysis for elimination of toxins, rest by administering opiates if necessary, combating shock by conserving blood during the operation, administration of a minimum amount of anesthetic, administering drugs such as pituitrin and camphor in oil in extreme cases, elevated head position, are points of importance in after treatment.

In conclusion, I wish to emphasize again, the



importance of applying more carefully well known principles of diagnosis and be alert for signs of acute infections of the abdomen in every patient with any suggestive abdominal symptoms, no matter how young or old, early in the disease; considering many of these late cases as preventable by earlier treatment, and the necessity for careful operative procedure and adequate after treatment. In short, it seems safe to say that in cases of acute abdominal infections more than any other in medicine and surgery, it is more important to review and always remember many old points that we already know rather than seek new ones, and above all make continued effort to make earlier diagnosis, and institute careful surgical treatment at the earliest possible moment, always remembering that time, watchfulness and application of knowledge of well known principles in diagnosis, and gentleness and thoroughness in surgical treatment, are cardinal principles, the more careful application of which will reduce the mortality in acute infection of the abdomen.

#### THE SIGNIFICANCE OF SACRO-COCYGEAL DERMoids IN RELATION TO RECTAL DISEASES

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A study of the origin of dermoids requires consideration of the errors which take place in the anatomic development, beginning with the invertebrates. Life having originated, as is well known in sea water, we find that the first process toward the development of the higher and more complicated life mechanism, is found in the primitive straight gut and cephalic stomach. Then followed the amphibian, with its ability to live in air, as well as in water media; in some instances the swim-bladder being converted into lungs, and in others respiration taking place through pores in the skin. Around the primitive gut was developed the nervous system and brain, which finally displacing the primitive gut and cephalic stomach, gave way to the higher developed vertebrate animal. Dermoids being only one instance among the multiplicity of errors of anatomic development, it is with exceeding interest that we study the many rare and curious deformities that may take place, some being of passing interest only, but many requiring surgical interference in order to correct a condition which may hazard either the health or life of the individual, many cases however, being irreparable. For instance, one may find anomalies of the spine and head, due to overproduction of

fluid on the one hand as in hydrocephalous, or a failure of union of the component parts of the skull may occur as a result of paucity of fluid, resulting in anencephalous. In some instances there is a failure in the closure of the neural canal from the occiput to the caudal extremity. Spina-bifida is a defect quite commonly met with in which the caudal end of the spine is open at birth, the cause of which lies in the inter-position of membrane between the bony arches from overproduction of fluid within. The caudal end of the spine is last to unite, hence the frequency of this deformity, in that the fluid pressure becomes greater as the bony arches close in from above. The cause of talipes is said to lie in the caudal extremity of the cord and its appendages. The neural canal is much longer than the notocord from which is developed the spinal column, but later on the growth of the latter far exceeds in length the cord proper, which ends in the lumbar spine. In the growth of the spine downward and its failure in certain parts to unite, adherent bands may form about the nerve roots; occult spina-bifida therefore should be born in mind as the causative factor in talipes. For the relief of this deformity Jones<sup>1</sup> and Severs<sup>2</sup> have undertaken to relieve the pressure by dividing bands and relieving adhesions. Coccygeal dermoids likewise have their origin in the overgrowth of the caudal spine. The neural canal originally reached to the integument at its caudal end, and as the bony parts over-run the neural mechanism, bits of skin and other ectodermal elements may be carried inward and lodged in the vicinity of the coccyx or lower sacrum. The origin of teratoma, sometimes found within the coccygeal body may thus be explained. The coccygeal body is a vestige of the neuro-enteric canal, and contains elements of the cord and blood-vessels. The teratomata found here contain elements of nerve tissue from the neural canal, mucous membrane from the bowel, bone from the coccyx, and elements from the integument.

According to Bland Sutton, dermoids may be divided into four groups, namely: Sequestrum dermoids; tubulo dermoids; ovarian dermoids, and dermoid patches. Sequestrum dermoids are found along the body midline where in the embryo, the two ectodermal layers become fused, and cells of the same being pinched off in the process of fetal development. Posteriorly, they occur anywhere along the spine, along the perineum, in the scrotum, penis, along the front midline to the neck,

1. Jones, R.: *British M. J.*, 1891, i, 173, quoted by Severs.

2. Severs, J. W.: *Spina Bifida Occulta*. Boston Med. and Surg. Jour., 1909, clxi, 388.

face and scalp, orbits and facial fissures. In extent, dermoids of this class may represent only a fissure, a fistulous tract lined with surface epithelium, or they may be found as masses containing hair, sebaceous glands, etc. Tubulo dermoids are found as remnants of the embryonic canals which normally become obliterated before birth, namely, the thyroglossal duct, brachial cysts, the post natal gut, etc. Ovarian dermoids occur in the ovary, and may contain any or all of the elements above enumerated. Moles are congenital pigmented patches and not infrequently are the starting point of malignant growth. Post-sacral and post-coccygeal dermoids are of frequent occurrence, and often arise from the prenatal vestige of Luschka. They may lie dormant during the life time of the individual, their presence not being manifested by any symptoms whatsoever; or they may become the seat of neurotic disorders, and owing to their low degree of vitality, being a sequestration and non-functionating foreign mass, they are prone to degenerative changes and are subject to the infections, in which case they become a distinctive pathological asset and require treatment. The process may extend into the adjacent bone, producing necrosis.

One of the interesting forms of sequestration dermoids is the pilonidal cyst, found in the region of the coccyx. They often contain bits of hair, hence the name. The microscope shows the sac to contain skin elements, debris and pus cell, the walls being lined with epithelial cells. Pain and tenderness usually follow infection of the process, the tension on the walls leading to the formation of one or more sinuses that open on the integument in the immediate vicinity. However, it may burrow downward beneath the fascial layers for a considerable distance, and open within the anus, forming the so-called incomplete or internal blind fistula, or it may open externally on the ano-perineal region without involvement of the rectal tissues. Infected dermoids lying in front of the sacrum may discharge into the rectum, or following the course of least resistance, open finally near the anal border on the outside. All rectal fistulae are the result of abscess formation, some of which undoubtedly originate from dermoid cysts in the sacro-coccygeal region. One has only to point out some of the dismal failures to cure fistulous tracts of this region, after repeated and mutilating operations, to be reminded that the primary lesion, the real source of the trouble, had evaded the efforts of the operator. If the origin is cystic in character, its secreting walls must be destroyed in order to effect a cure. In one case, the coccyx was removed in order to provide room for a thorough curettage of the

walls of what undoubtedly was a cystic process of fetal origin, situated in front of the sacrum with a sinus opening externally near the border of the anus. A cure was thus effected, after two unsuccessful attempts by other operators had been made to cure fistulous tracts about the anus. Another case, that of a private soldier in the base hospital, Ft. Riley, Kansas, with an intractable fistulous tract, surrounding the posterior and left borders of the anus. He had been operated upon for its relief without success. After laying open the sinus, a search was begun for a communication with a larger cavity. I was lead to do this because 30 c.c. of permanganate of potassium solution had been injected into the tract for straining, none of which had entered the rectum. A minute sinus was found leading up to a large cavity to the left and posterior to the rectum. A free communication with the cavity was established, and after removing a large amount of detritus, and thoroughly curetting the walls, it was treated with gauze packings until healing was completed at the end of six weeks. The insidious onset, and long standing of this case, leads me to believe that it was a cystic process of fetal origin. The following case illustrates beyond question the importance of dermoid tissue as a source of peri-rectal infection.

The patient, a bookkeeper, age thirty-two, experienced sudden pain in the region of the anus, and thinking his condition due to hemorrhoids, purchased a "pile remedy" which he inserted into the rectum. The day following, I was consulted, as the patient believed that the suppositories he had used had aggravated his condition. Examination showed the rectum and immediate anal region to be normal. At the base of the scrotum, however, about 8 c.m. from the anterior anal border, and 2 c.m. to the left of the median line, a phlegmon was found that was discharging pus. The untimely rupture of the abscess occurring as it did soon after applying the "pile cure," led him to the erroneous belief that the irritation and discharge was due to the activity of the remedy employed. From the abscess a probe was readily passed through a sinus leading backward to the anus, the point of which impinged upon the finger inserted into the rectum, but it did not enter the lumen of the bowel. Four days afterward, April 12, 1920, he entered Mercy Hospital. Under ether anesthesia, the sinus was injected with a solution of potassium permanganate. It was noted that none of the solution entered the rectum, which established the fact that it was entirely extra rectal. The sinus was then laid open. It hugged the left border of the external sphincter, thence backward and upward, to the posterior surface of the coccyx, where it ended in a mass of necrotic tissue, in which was embedded two or three fine hairs. The posterior arm of the sinus next to the anus admitted only the finest probe.



The sac and posterior half of the sinus was completely dissected out and closed with silk-worm gut; the remainder being left open, and packed with gauze. Healing was completed in five weeks.

Without the aid of staining solution, it is often impossible to follow fistulous tracts, which may be narrow and tortuous. Moreover, unless one bears in mind that the source of the infection may lie in an infected sacro-coccygeal dermoid, failure to cure will result, if only the superficial tracts are dealt with.

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#### PHYSICIANS WHO LOCATED IN IOWA IN THE PERIOD BETWEEN 1850 AND 1860

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D. S. FAIRCHILD, M.D., F.A.C.S., Clinton

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DR. MARTIN H. CALKINS

Through the courtesy of Mrs. Mary Calkins Chassell we have been able to secure important data relating to the life of her father Dr. M. H. Calkins who was an early physician in Wyoming, Jones County, Iowa.

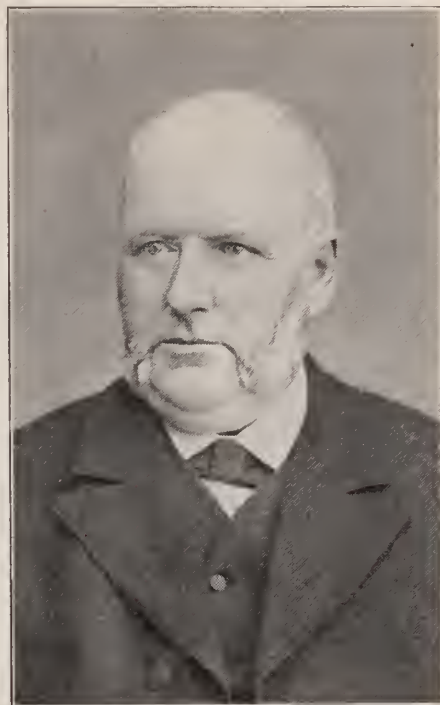
It gives us a deep sense of pleasure to record the life and work of one of that group of earnest men who came to Iowa in the early days of its history and helped to lay a solid foundation upon which to build a commonwealth. It is also equally a pleasure to point out the facts in relation to Dr. Calkins as an exponent of the highest ideals as a practitioner of medicine. We have already written of a group of physicians who did not count financial gains as the great purpose in life but only incidental and subordinate to service and duty. These men were strong men who gave their lives to the public, reserving only the wages of honest service to humanity and state. To commercialize their profession was abhorrent, to measure service by money standard was intolerant; they were men, true men from whom we should gain inspiration. It is not too late.

Dr. Martin H. Calkins was born near the town of Mexico, Oswego County, New York, September 15, 1828. He was of Mayflower and colonial ancestry on both the maternal and paternal sides. He was educated in the common schools and at the age of seventeen began teaching in the country schools and later in the City of Oswego. He was teaching in that city when the first train of cars arrived. He held a teachers state certificate which was number six in New York State.

After reading medicine in the office of Doctors Bowen and Dayton in Mexico, he took a course in the College of Medicine in Geneva, New York, completing his medical studies in the University of New York City.

He commenced practicing in Constantia. He was married November 8, 1855 to Miss Lucinda Loudon of North Bay, Oneida County, New York.

On the 14th of June, 1856, he came to the new State of Iowa and after spending a few weeks in



DR. M. H. CALKINS

Maquoketa came to Wyoming in Jones county which was then a town of a dozen houses, but hopeful and growing rapidly. The surrounding country was a most beautiful rolling prairie, rapidly being peopled by settlers who were busily engaged in breaking the virgin soil and laying the foundations for the beautiful homes and farms of Jones county.

The young Doctor built a dwelling on a block cornering on Main and Washington streets. It was modest in size and the lumber was black walnut. Here on these same lots but in a more pretentious house built in later years, Dr. Calkins resided and practiced his profession for nearly fifty years. As a physician he was eminently successful, and held his very large practice perhaps as much by his social, genial strength of character and magnetic influence and the sunshine that always entered the sick room with his presence, as by the administration of drugs.

His personality was a force for good not only in the sick room but in the entire growing community, and he was looked up to as a safe adviser and counselor. During his long practice, he re-

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## Iowa State Medical Society

ORGANIZED 1850

*Seventy-first Annual Session*  
*May 10, 11, 12, 1922*

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sponded faithfully and cheerfully to all calls and we have no knowledge of his ever pressing his patients for bills, or invoking the courts for assistance in collecting fees from those who should pay, but did not. It was often said of him that he never oppressed the poor, or failed in fully performing every obligation imposed upon a medical practitioner, and because of these characteristics be held the love and respect of the people.

In 1862 acting as a mustering officer, he administered the oath of allegiance and mustered into the state militia, a company of eighty-nine men who afterwards formed Co. K, 24th Iowa Infantry and served their country during the Civil War. Dr. Calkins erected a monument to these men and on it their names are inscribed. He also acted as one of the state commissioners in the year 1862-3 to go to the Southland and take the vote of the soldiers then in the field.

Dr. Calkins had but little of the politician in him and never sought office. But when the town of Wyoming was incorporated, he was unanimously chosen mayor. In 1881 he was nominated as the Republican candidate to represent the county in the lower house of the state legislature. The Democrats making no nomination the Doctor was unanimously elected. Two years later he was re-elected, and although opposed by a leading democrat, polled in Wyoming township 200 out of 211 votes cast. In the legislature, he was true to his party and to his conscience. He was one of its fifty-two members who voted for the prohibitory law. He led the house in the matter of oil inspection law and had opposed to him one of the most active and unscrupulous lobbies who went so far as to hide the bill after it was returned from the senate. But Dr. Calkins called a halt during the last hours of the assembly, had the bill searched for, found and put upon its passage, and passed much to the surprise of the lobby who thought the matter disposed of for that session. The revenue from this bill to the State of Iowa amounts to \$10,000 or \$12,000 to say nothing of the safety which it guarantees.

Dr. Calkins was a writer of unusual ability and every day for many years wrote upon some subject, either scientific, historical or literary as a personal study. In these moments he forgot not the town and vicinity of his adoption, but gathered together in chronological order the reminiscences of the early days of the settlement of Wyoming town and township, weaving a most interesting history that formed a course of lectures delivered by him to his towns people about 1878. So fully had the Doctor covered the ground, that, in 1878, (and in a later history) this history of Dr. Calkins was incorporated into the volumes,

the editors saying the ground had been fully covered by the Doctor, and, in language and thought, was superior to anything the editor could hope to place in the volumes.

It was a high compliment to the hard working physician who had thus kept the annals of his town and vicinity in its early days, and made for Dr. Calkins a monument as the pioneer historian of Wyoming, that will live when the marble column is in dust.

He was a modest man, living the life of one devoted to his profession, and while his name may not be found on the church rolls, he followed closely the golden rule of the Master in his daily life as an obligation due—one to the other—among all people. His upright life, courteous manner and kindly daily life set a standard of good living to generations of young people in the community, that has been for the betterment of the social life of Wyoming and Jones county.

He was out-spoken and fearless in support of moral reforms and with both pen and voice declared his position on questions of good government. As a man, Dr. Calkins was gifted with a large and comprehensive mental endowment and scholarly culture. He was large of physical frame and larger of mind and heart, honest, upright in his dealings with his fellow men; cheerful, warm and open hearted, approachable and companionable, performing his duty diligently with contentment and resolution. He possessed a vigorous personality. His unfailing kindness and generous impulses, his devotion to his profession, his proverbial and spicy good humor and genial disposition, his kindly ministrations to the needy and those in distress of mind, coupled with his sound judgment, wide experience and independence of thought and action made Dr. Calkins beloved as a man and citizen to a degree seldom realized by human experience.

For many years, he served on the board of pension examiners in Jones county and as local surgeon for the C. M. & St. P. R. R.

His practice and the superintendency of his farms made his life one of constant activity. At the time of his death he owned a farm in New York State which had been in the family for one hundred and twenty-seven years.

Dr. Calkins died September 27, 1909. Mrs. Calkins died December 25, 1915. They are survived by two daughters: Elva Calkins Briggs (Mrs. W. E.) Minneapolis, Minnesota. Mary Calkins Chassell (Mrs. E. D.) Wyoming, Iowa. Two grandsons, Martin Calkins Briggs, a business man of Minneapolis; Walter Charles Briggs, a student in Yale. One grand-daughter, Mary Calkins Briggs, a student in high school.



# The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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## IOWA STATE MEDICAL SOCIETY

The Seventy-First Annual Session of the Iowa State Medical Society will be held May 10, 11, 12, 1922, at Des Moines.

Seventy-two years ago twenty-five Iowa physicians met at the court house in Burlington to organize a state medical society for the advancement of medicine. These were big men who came to Burlington, by steamboat, by stage coach and on horseback for the serious business of organizing a medical society of state wide jurisdiction. No local society had been organized then, therefore, in Iowa, medical organization began at the top. The first local society was in Keokuk (1850); first county society, Polk (1851). It was recognized that the state society should be the center of medical activities, economic, social, scientific and professional. The organization was based on political lines of independent state sovereignty, admitting nominal alliance to the American Medical Association.

There were no laws governing the practice of medicine, each was an individual practitioner amenable to the code of a gentleman. When the state society was organized, the written code of the American Medical Association was adopted and this was the beginning of an "Autocracy in Medicine" as we hear from time to time.

Following the close of the American Revolution, the thirteen colonies about to become states, feared the adoption of the constitution as endan-

gering their liberties and if the appointment of John Marshall as chief justice could have been forseen it is doubtful if the constitution could have received a sufficient number of votes, and the several new states would have remained separate jurisdictions, with what results we need not speculate. It was not until after the Civil War that the federal system was apparently securely established; we say apparently for not once only, but several times thoughtful men had been apprehensive. We often hear of the "American Idea," "True Americanism" or similar cries, the meaning of which we do not know and no one attempts to define. What would have happened if there had not been a John Marshall to interpret the constitution or statesmen like Alexander Hamilton and John Adams to lay the foundation of government, likewise furnish grounds for speculation.

Recently we read an address by a high government official before an Association of Life Insurance Presidents that a great danger came to this Government when the House of Representatives did away with the rule of Tom Reed and Joe Cannon in refusing recognition of members who introduced bills objectionable to certain leaders. No doubt Mr. Weeks is right, but how unAmerican the danger of autocracy. Then and now the cry was raised of danger to American institutions. Mr. Wilson negotiated treaties and a League of Nations under strict constitutional provisions without consulting an unfriendly Senate; again a danger to American institutions. Mr. Harding proposed a similar procedure with the same fears except that his own party is in power.

The Binet Test shows that 12 per cent only of our people are capable of leadership and we had fondly hoped that this per cent was made up largely of the medical profession, but we have heard ever since the reorganization of the medical profession, that we were in great danger of a medical autocracy, the greater the success of the organization the greater the danger. The same is true of the American College of Surgeons and the Standardization of Hospitals. The "American Idea" has been in danger for nearly 150 years, and yet we survive. We wonder sometimes why the danger-mongers do not become discouraged.

In Iowa we are delighted to say these people do not flourish in the medical profession to any great degree. We admit that the "great men" in the profession do not live in Iowa. We do not often see the names of Iowa physicians on national committees, neither do we see or hear of Iowa physicians identified with measures to defend the "American Idea"—whatever that may be—but we

do see 2500 medical men earnestly endeavoring to make conditions better. We do not see our pages filled with warning of university autocracy, of the dangers of state medicine, of the dangers of maternity bills or other awful things.

We realize with other interests that conditions are changing. The old men are sometimes distressed because the practice of medicine is not as it was in earlier days; the men of middle age are disturbed by the strenuous competition; that the young men disregard the traditions of the past, and look upon the field as their own; and that the business and professional methods of the past are obsolete. Then differences in viewpoint have led to divisions in hospital relations and combinations, and medical society discord, but we have seen all this before, although now somewhat aggravated by the greatly increased cost in medical education, and increased cost in conducting a medical practice. These conditions are reflected upon the general public, who find or think they find lower standard of medical ethics, greed for money and more commercialism. The general public think that while there is a greater technical knowledge among physicians, there is a less broad literary culture, and that doctors' libraries do not compare favorably in books, and high grade magazines, with other educated classes.

The cure for these criticisms lies in the hands of the physicians themselves. The personal relations of physicians will work themselves out by a process of evolution. The social side, which is of great importance in the eyes of the public, can be greatly improved by local and state medical society—attendance. We observe a decided improvement in this direction, particularly in the smaller cities where the county society meeting is an event of social importance which particularly attracts the attention of the public. The state meeting is also an event. We ought to see 1,000 members present with members of their families as far as possible. We feel that we can assure the profession a greatly improved public status if instead of 500 we have 1,000. The sacrifice will be more than compensated from the viewpoint of the public, and instead of complaining because the public overlooks us we compel the attention of the public by filling all the spare space, other conventions do this and so can we do the same.

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In the February, 1919 number of the Edinburgh Journal, Robert Knox, M.D., urges the importance of a place of radiology in the medical curriculum and the need for coordination in teaching.

## BRITISH MEDICAL ASSOCIATION

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The British Medical Association is established for the promotion of the medical and allied sciences and the maintenance of the honour and interests of the medical profession. It has divisions throughout the British Empire. There are 43 branches, with 215 divisions, in the United Kingdom, and 44 branches, with 58 divisions, in the British Empire Overseas.

Any medical practitioner registered in the United Kingdom under the medical acts, any medical practitioner who does not reside within the area of any branch of the association and who though not so registered is possessed of any of the qualifications described in Schedule (A) of the Medical Act, 1858, and any medical practitioner residing within the area of any branch of the association situate in any part of the British Empire other than the United Kingdom who is so registered or possesses such medical qualification as shall (subject to the by-laws) be prescribed by the rules of the said branch, is eligible to become a member of the association. Members of the association are, *ipso facto*, members of the division and branch in the areas of which they reside.

The liability of members is limited.

The annual subscription, which is due in advance on January 1 in each year, and entitles the member to all the ordinary privileges of membership of the association, including membership of the division and branch in which he or she resides, and the weekly supply of the British Medical Journal post free, is as follows: Member resident in United Kingdom, \$15.00. (In the case of newly qualified practitioners elected within two years of registration, 1½ guineas yearly, up to end of fourth year after registration.)

Member resident in a Branch outside United Kingdom \$10.00 or more according to the Rules of the various Branches.

Member resident outside United Kingdom where no Branch is organized \$10.00.

Present membership, 23,666.

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## EARLY BRITISH MEDICAL JOURNALS

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The first English Medical Journal was published at George in Fleet-Street, London, June 17, 1684, and contained fifty-six pages under the title of *Medicinen Curiosa*. The second and last number October 23, 1684, contained sixty-four pages. A number of short lived journals appeared at various dates from 1757 onward.



The first real English Medical Journal was founded by Dr. Simmons in 1781 called "The London Medical Journal;" ten years later its name was changed to Medical Facts and Observations; it ceased to appear in 1791. The Medical and Physical Journal was founded in March, 1799 by Dr. T. Bradley and Dr. F. M. Willich and continued until 1833. The Lancet was started by Dr. Thomas Wakley in October, 1823 and was the pioneer medical journal among those still existing; the British Medical Journal first appeared in 1840 under the name of Provincial Medical Journal. It soon changed its name to the Provincial Medical and Surgical Journal as the organ of the Provincial Medical and Surgical Association founded by Sir Charles Hastings in 1832. But in 1856 when the name of this association was changed to the British Medical Association the name of the Journal was also changed to the British Medical Journal.

#### CANADIAN MEDICAL ASSOCIATION

At the recent meeting of the Canadian Medical Association at Halifax, a resolution was adopted increasing the annual fee for membership including the Journal to \$10.00 beginning January, 1922.

It is believed that with the increased income, greater service may be rendered its members, and the Journal improved. This important fact is being realized by medical organizations in general and there is growing tendency to increase dues to meet the increased activities that fall upon the societies in their relations to the public.

#### ASSOCIATION OF JAPANESE MEDICAL MEN

Japanese medical men in Berlin, to the number of forty, have formed an association, one of the purposes of which is to re-establish relations between German and Japanese medical men, which were broken off by the war. With this purpose in view, the association organized last month a special session, to which the directors of all the institutes in which Japanese physicians are engaged at the present time were invited. The invitation included the dean of the medical faculty (Geheimrat Rubner), the presidents of the medical societies and certain representatives of the medical press. Following the special session, a banquet was held, at which several Japanese gave expression to their gratitude for the part that the Germans had played in the advancement of Japanese medicine. The announcement that the owner of two widely read Japanese newspapers had contributed 300,000 marks for the relief of German children made a very favorable impression.—*Jour. A. M. A.*

#### IOWA STATE UNIVERSITY NEWS NOTES

Don M. Griswold, M.D.

"Dad's Day" was celebrated at the University in a very fitting manner. Fathers of the students in all colleges were invited to come to Iowa City on February 25, and get acquainted with the faculty members and the environment of their sons and daughters. Many of the physicians of the state who had sons or daughters took occasion to come to Iowa City at this time to bring patients to the hospital or to visit the clinics.

Helen Stewart, director of the school of public health nursing, was in Sioux City February 13 to give addresses on "The purpose of the school of public health nursing," to the nurses of Samaritan Hospital, Visiting Nurses' Association, and the Public Welfare Bureau.

The Johnson County Public Health Association met at the city hall, March 4, in Iowa City to outline a constructive health program for Johnson county.

Notice has been received from the war department that all students in the University who are taking the advanced course in the R. O. T. C. will receive six weeks of field training at Carlisle, Pennsylvania, this summer. The work of the Reserve Officers Training Corps during the school year is entirely theoretical and given in the class rooms, so that it is highly desirable to give the students practical training under field conditions before granting them their commissions in the Reserve Corps.

Dr. L. W. Dean attended a meeting of the Iowa, Nebraska, and South Dakota Clinical Congress at Lincoln, Nebraska, February 6. This Clinical Congress is the Tri-State Section of the American College of Surgeons. Dr. Dean is a member of the Credentials Committee and reports that a number of very able surgeons of this district were enrolled in the organization.

The department of hygiene and preventive medicine, medical college is in receipt of a fresh supply of polyvalent Botulinus antitoxin. Physicians who have reason to believe that they are dealing with a case of Botulinus poisoning may have this material free of charge on telephonic request.

Considerable interest was manifested recently in a sophomore medical student who was found to be an excellent case of situs transversus. The classes in physical diagnosis have enjoyed greatly the novelty of examining such a case.

The laboratories for the State Board of Health called attention to the fact that of the unusually large number of heads sent to the laboratory for examination for rabies, a considerable number have

been found positive. Among the heads sent in for examination have been—one weasel, one tame black squirrel, one horse, and seven cows.

It is recommended that physicians be on the lookout for rabies in domestic animals.

The Annual Clinic of the College of Medicine will be held Monday and Tuesday, April 11 and 12. This is an annual event which has proven very popular and brings several hundred members of the profession from all parts of the country to see the work in the clinics here. The program for this year is unusually attractive and can be had by request to the junior dean.

Dr. Paul R. Rockwood and Dr. J. B. Synhorst have received fellowships to the department of internal medicine of the Mayo Clinic. These men graduated with the class of 1921 and are just completing their internship in the department of clinical medicine at the University Hospital. The fellowship was granted by the Mayo Foundation and carries a liberal stipend for three years.

On February 10, Dr. L. W. Dean presented a paper before the Otological Section of the New York Academy of Medicine, on the "Tonal Ranges in Lesions of the Acoustic Nerve, and its end Organ."

Four representatives of the University presented papers before the meeting of the American Association of Medical Colleges in Chicago, March 6 to 10. The men who represented the State University of Iowa at this meeting are, President W. A. Jessup, dean, L. W. Dean, Dr. J. T. McClintock, and Dr. Don M. Griswold.

Dr. Lawson G. Lowery, assistant director of the Psychopathic Hospital made a report on March 7 of the psychiatric survey of the children at the juvenile home, Toledo, Iowa.

Drs. Byfield, Davis, Jones and Griswold have just completed a survey of the State College for the Blind at Vinton. The special lines investigated by each of these men were nutrition, eye, ear, nose and throat, general medical conditions and sanitary matters. The report will shortly be filed with the state board of education.

A temporary building has been constructed east of the University Hospital to be used as a venereal disease hospital. This building will have forty beds and be thoroughly equipped for handling this number of hospital cases. The purpose of the new hospital is to co-operate with the U. S. Public Health Service and the State Board of Health in their effort to suppress venereal disease and to increase the facilities available here for this phase of the work. Patients are to be admitted on the same basis as to other wards of the University Hospital, and it is anticipated that many cases will be received under the Perkins-Has-

kell clause laws. Dr. N. G. Alcock, professor genito-urinary diseases, will be in charge with an augmented staff.

### THE HOSPITAL SURVEY OF THE COLLEGE IN 1921

In January of this year, when the hospital program of the college for 1921 was evolved, it was decided to limit the survey to thirty months of hospital visiting. This was from necessity rather than from choice. Consequently, hospitals which were fully approved in 1920 were not revisited this year. Follow-up visits to these hospitals, however, were postponed only temporarily. Particular attention was directed toward those hospitals which either were not on the approved list last year or which were listed with an asterisk. In addition, as many as possible of the fifty-bed hospitals were visited also.

The survey was conducted through personal visits by a corps of seven hospital surveyors. These men—all physicians—were from medical schools and hospitals of widely separated sections of the country. They were given a course of training at the college headquarters, followed by survey work with experienced hospital visitors. This uniformity in training assured the college of uniform reports, which constitutes one of the essential features of the college program. Whether a hospital were in Maine, therefore, or in California, each institution was visited and surveyed on the same basis. Further, by visiting a large number of hospitals scattered over a wide range of territory, these surveyors obtained a general, rather than a local viewpoint. This policy of personal visits by relatively few, uniformly trained hospital surveyors in one of the most important elements of the college program.

There are certain difficulties experienced by hospitals in their endeavor to meet the standard of the college which merit special emphasis.

Relative to staff organization, one of the chief difficulties seems to be the adoption of a type of staff meeting which actually analyzes the clinical results. Slowness in developing a co-operative, group spirit among the physicians seems to be the chief hindrance. As this spirit develops, the purpose of the staff meeting becomes more nearly realized. In the average hospital a combined staff meeting is essential. Teaching hospitals, however, and other hospitals with highly specialized staffs, and hospitals having a staff membership of only one or two physicians, form certain exceptions to this rule. In such instances, departmental conferences, teaching clinics, and individual analyses take the place of the combined staff meeting.

The adoption of an official resolution prohibiting fee-division has been a second stumbling block in many hospitals. Hospitals which have been slow to respond may be divided into two groups. In the first group are institutions, in which, apparently, the practice has not been unknown and where, consequently, difficulty was expected. It was a distinct



surprise, however, to meet opposition to passing such a resolution in some hospitals of the second group, having a high ethical status in communities or sections of the country where the practice of fee-division is practically unknown. Some of these hospitals were very hesitant about passing resolutions condemning the practice. When they began to realize, however, that they served as powerful examples for other hospitals in which the practice was prevalent and that the college must apply a uniform policy toward all hospitals, they responded. That the viewpoint and stand of the college in this matter is amply warranted is evidenced by the impression gained by our hospital visitors, that the practice of fee-division is present to some extent in nearly every state and province, even though it may be practically unknown in some sections.

Case records are improving steadily although they still constitute the greatest difficulty in many hospitals. Two factors stand out most prominently in impeding the development of proper case-record systems in hospitals: first, the lack of proper interest in the case records by physicians and hospital executives themselves; second, the lack of internes. The first is just as important as the second, because even a full quota of internes without sufficient supervision will often fail to secure adequate records. When the hospitals do their share in supplying sufficient record facilities and personnel, and the staff members co-operate by exhibiting proper interest in supervising the records, most of the difficulties in this connection will be solved.

Laboratories have shown a similar steady improvement. There is a demand for laboratory equipment, technicians, and pathologists, which has been hitherto unknown. One handicap to the development of adequate laboratory service is the system of making a separate charge for each laboratory test performed. This difficulty has been obviated in many hospitals by establishing a flat-rate fee to include most of the usual laboratory tests. Tissue examinations should be included in this flat rate, otherwise it is difficult to obtain routine examination of all tissue removed at operation. Although the flat-rate fee may not be applicable in all hospitals and may be inadvisable in some, it has been of tremendous help to many hospitals in solving their laboratory problems.

Last year, out of the 704 hospitals in the United States and Canada having a capacity of more than one hundred beds, 407, or 57 per cent, were on the approved list. Of that number 193, or almost half, were listed with an asterisk.

This year, the total number of one-hundred-bed hospitals has grown to 761. Of this number 568, or 74 per cent, are on the list. Of these 568, 18 per cent, are listed with an asterisk, showing the great relative decrease in the number of hospitals listed with an asterisk this year. The asterisk has been used to indicate those institutions which, although they have instituted measures adopting the fundamental principles of the standard, have not developed them to their fullest efficiency at the present time.

Besides these larger hospitals, 704 of the fifty-bed hospitals were visited during the past two years. According to our records, there are about 875 of these hospitals, leaving about 150 which have not been visited. It is the hope of the college to visit all of these smaller hospitals next year, so that they may be included in the next approved list. The total number of hospitals visited by our hospital surveyors this year is 1,007.

The attaining of the minimum standard, of course, is not purposed to be a resting place in the pathway of a hospital's progress. It is no ultimate standard. There are many things beyond. It does, however, contain the basic fundamentals and that, doubtless, is why so many hospitals have adopted it.—Frederick W. Slobe, M.D., Chicago, Hospital Standardization Department, American College of Surgeons.

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#### THE STANDARDIZATION PROGRAM OF THE AMERICAN COLLEGE OF SURGEONS

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This is the first time I have been put down on the program to present the plan of the American College of Surgeons. And yet I think, during the three and a half or four years that I have been co-operating with the college, I have always been talking on that topic.

You have heard already what are the requirements of the standard. You have heard a great deal about organization of the staff, about the records, about the laboratories, and the division of fees, and about the autopsy work. I shall not go into any technical details because they have been set before you by those who have technical knowledge. I shall try to present to you, in as few words as possible, what seem to me to be the great historic facts of this movement for better hospitals—the scientific fact that underlies it, the ethical basis of it, and its bearing on the religious thought and feeling and spirit which is inevitable.

Historically, the Council on Medical Foundation began this movement for better hospitals when it began to make the medical schools better and when, following that wonderful movement, it began to look to the interests of the interne some eight years ago. Some five or six years ago, the American College of Surgeons, stirred down into the depths of its soul, began to realize that it had a mission for the better care of the sick in the United States and Canada and made up its mind, as you all know and have been told, to improve surgery. But everybody also knows that you cannot improve surgery unless you improve everything that centers in the work of the hospital. And so the American College of Surgeons had not gone very far with its efforts and purpose to improve surgery when it realized that it had to improve everything in medicine.

Knowing that the Council on Medical Education had begun this work, the college, in its fine spirit of honor and regard for the profession, went and said: "This is what we want to do; what are you going to

do?" And the reply was: "Go on and do your work and we will stand by and help you." Therefore, you members of the American College of Surgeons, take it down deep into your hearts that you have been doing a wonderful work for the whole profession in bettering hospital service to the public.

This is the historic fact—absolutely unquestionable because I know it from personal experience in the movement from the very beginning, and hence I always take an occasion like this to say: "All honor to the American College of Surgeons." And furthermore, they are in the middle of the work. It is well begun. They have gone on, let us say, toward the middle of it and they must carry it on to the end, because they are the body of people as far as I can judge, capable of finishing the movement, at least up to that point where it is sure and safe and sound and destined to go on. That is the historic point of view.

Scientifically, it seems to me that this should be said: The mind of the medical profession is being reached as it was never reached before, to make it more keen, more analytical, more cautious, and more co-operative in its scientific combination of thought, in its analysis of assembled facts, in its careful, gradual, step-by-step arrival at a diagnosis. And this grows out of the organized staff. This grows out of the monthly staff meeting, or weekly departmental meeting, as the case may be. It has brought about that the medical profession working in the hospital has come to the conclusion that minds must get together, that facts must be assembled, and the right analysis of those facts arrived at either by the individual, a small group, or the whole staff. In other words, gentlemen, without intending it, as I observed throughout the continent, the medical mind is being convinced by this program of yours that the time for independent and separate and distinct and hostile personal thinking is past in medicine. Today everybody is convinced that no medical thought is finally safe for the patient, for the public, until several minds have agreed. Standardization, therefore, in as far as it means organization of staff, in as far as it means monthly conferences, has meant a great development of the medical mind throughout the country, and, above all, a great development of medical character. Men today, instead of being distinct individuals, are growing into the greater stature of men working with their fellows, an embodiment of much greater capacity and character communicated into action.

Just one more word about these monthly conferences. I believe there is an incomplete appreciation of what they mean. The college speaks of them as clinical conferences, as investigating the clinical experiences of the hospital. But the college does not say, except impliedly, that in these monthly conferences lies the secret of the success of the whole movement. Your records will not amount in value to the paper they are written on, your laboratories will be useless, you will get no autopsies worth while, the unjust division of fees will go, unless your monthly conferences are genuinely, are sincerely, are absolutely

high-minded and get down into the very heart and soul of every man. Because, gentlemen, what is the monthly conference? It is a review of what was done at the whole institution for every patient that came into the hospital. I do not care how many statistics you have, how correct they are, the facts in figures are without the scientific soul of the facts, unless the soul of the medical man is big enough to analyze those facts. Thirteen deaths in the past month means nothing. Why did each one die? So many unimproved in the hospital means nothing. Why are they unimproved? What has been the use of the laboratory? Why haven't we had more autopsies? Gentlemen, it is hard, it just tears the soul out of a medical man to have to face his own failures, his own incomplete work, his own missing of diagnosis, his own failure to have consultation when he should have had it, his own incapacity to assemble the great facts involved in the case and then miss in his diagnosis or fail in his operation or somewhere in his treatment. They call it a minimum. I call it a fundamental.

And here let me make a plea, such as was made here on the stand this morning, for the young man, for the man that wants to grow. Let the older men play the big brother. Let them be the outstanding leaders, not so much in what they know or in their skill but in their greatness of character, in their readiness to say, "I don't know, I failed, help me."

Now, just one more word on that question of the monthly meeting. The American College of Surgeons has a mission. There is an apostleship for them to take. They have not been brave enough. They have not been aggressive enough. They have not in all cases set the great example of genuineness in these monthly meetings. Those monthly meetings cannot be like the county medical meetings or those of any special association and at the same time attend to the business of the monthly meeting. What has been done for our patients? Where have we failed? Where have we succeeded? Papers, discussions, cases are not the real thing in those meetings. There is no intention on the part of the college to displace county medical meetings, to displace the work of your specialist society, which is all one thing. What has this hospital, from top to bottom, from engineer to superintendent, including the nurses, the orderlies, and everybody—what have we done for our patients during the past week or month?

The college started with the thought of bettering surgery. They are in the midst of bettering the whole practice of medicine. Why? Because the heart of the movement, the heart of the record, the heart of the monthly meeting, the heart of the service in the laboratory—I mean scientific heart and ethical heart—is diagnosis. It all centers on diagnosis; no hurried, no snap-shot, yet no elaborate (beyond human frailty) diagnosis, but a genuine, sincere, a definite, direct, cautiously and deliberately arrived at diagnosis of what is the matter with the patient. That is the heart and soul of medicine.



Here again I would like to say a word of commendation, a word of praise, a word of congratulation to the members of the American College of Surgeons throughout the country for the thoughtful, the really scientific, and the deeply conscientious way in which they are going at this program. There is no doubt about it, gentlemen, if I am at all safe in my conclusion on the reading of medical history, that there has never occurred a movement equal to it in the past history of our race. Here we have a great body of men on a great continent—and it is sure to reach the rest of the world—facing a tremendous ethical responsibility by a keen administration that is scientific of the laws of health. It is done because you all, down deep in your hearts—and particularly is it true of the hearts and minds of those men who have led the movement, Dr. Franklin Martin, Dr. John Bowman, and others in the office who have led the movement—feel that it is the greatest in the history of medicine.

If I may be allowed just a few more words: At the first meeting you had in Chicago, when you began this plan, I was fortunate enough to be asked to address you. There were there three hundred members of the American College of Surgeons and the title of the program was "Hospital Standardization." And I can recall with a great deal of vividness that at the end of the morning program I arose and I said: "Gentlemen of the American College of Surgeons, your title may be all right but I am going to be bold enough to say to you that it means not primarily standardization of hospitals but it means the standardization of the medical profession, in mind, in character, and in heart."—Rev. Charles B. Moulinier, S. J., Milwaukee, President, Catholic Hospital Association.

#### DIVISION OF FEES

An article in the Amended Constitution of the Kentucky State Medical Society on membership reads as follows:

Section 1. All members of the Component County Societies shall be privileged to attend all meetings and take part in all the proceedings of the annual session, and shall be eligible to any office within the gift of the association. Provided, that no physician may become a member of any county society unless he signs and keeps inviolate the following pledge.

"I hereby promise upon my honor as a gentleman that I will not so long as I am a member of the Kentucky State Medical Association practice division fees in any form; neither by collecting fees from others referring patients to me nor by permitting them to collect my fees for me; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I in any way, directly or indirectly, compensate anyone referring patients to me nor will I utilize any man as an assistant as a subterfuge for this purpose."—Kentucky Medical Journal, September, 1921.

#### DEAD AND WOUNDED IN GERMAN EMPIRE IN WORLD WAR

	Dead	Wounded	Total	% of Total
Army .....	1,773,700	4,216,058	5,989,758	99
Navy .....	34,845	31,085	65,930	1
Total .....	1,808,545	4,247,143	6,055,688	100

—Medico-Military Review.

#### DANGERS TO X-RAY OPERATORS

The death of Dr. Ironside Bruce, radiologist to Charing Cross Hospital, London, from the effects of constant operation of x-rays has called attention to a danger hitherto unsuspected. The recognized dangers have been the development of malignant skin disease from over exposure to the radiations. The risk has been in large measure overcome by the employment of protective measures. The heretofore unrecognized danger appears to be due to the use of deeper penetrating radiations, particularly affecting the blood forming cells. Dr. Bruce died of a form of anemia known as aplastic, which has been found to occur in persons who have never used x-ray but there is reason to believe that the disease occurs most frequently in x-ray operators and is intractable to treatment. How aplastic anemia is brought about is uncertain, different views are held. It may be due in some cases to the radiations themselves. In other cases it is believed that the production of nitrous oxide in the air by the electric discharges. It is quite clear at least that the vitiated air brings about a state of fatigue well known to x-ray operators in restricted spaces.

The danger is the greater because it is a hidden one. The manifestations being a growing weakness followed in some cases with death.

Researches are being conducted to determine means of safety, which are highly important in view of the rapid development of x-ray work.

#### PAY CLINICS

The board of trustees of the A. M. A. at a meeting held November 10-12 considered the question of pay clinics as follows:

The question of pay clinics, diagnostic clinics and group practice was given extended discussion and a special committee was appointed to report during the present meeting. This committee met and considered the subject from every point of view. The general consensus of opinion was that pay clinics have come into the field to remain permanently; that it is the duty of the association to study the subject and to offer fundamental principles and policies which should be followed in the conduct of such clinics, group practice, and diagnostic clinics. The principles deemed basic are: (1) that patients should be received by the clinic only when sent by the family

physician or received with his knowledge and approval; (2) so far as feasible the patient should be returned to the family physician with written information and suggestions; (3) that the fee charged by such clinic should not be less than that usually charged in general practice, so that, as far as possible, competition of the clinic with the general practitioner should not occur, and the chief consideration should be the public and the medical profession. It was finally decided that the executive committee and the general manager should secure a committee of three, if possible, to make a survey of certain existing diagnostic clinics and private groups, for the purpose of obtaining full information of the methods of administration and policies under which such institutions are conducted, and report to the board at the February meeting.—*Journal of the A. M. A.*, November 26, 1921.

### INCREASED COST OF LIABILITY INSURANCE

An increase of 200 per cent in the cost of physicians' liability insurance has been made by the companies writing policies of this nature within the past three months. The companies claim that they have been losing money at the old rate of fifteen dollars for the regular five to fifteen thousand dollar policy. This increase comes at a time when every one is feeling the business depression now on us, a depression which affects physicians as keenly as any other class or profession.

Assuming that the companies are correct, this increase means that more people are suing physicians for real or fancied damages—possibly more are getting verdicts. It is doubtless a continued development of the epidemic of hold-up and highway robberies with which our entire country has been afflicted recently. At any rate it is a matter for serious consideration when the cost of protection goes from fifteen dollars to forty-five dollars at one jump.—*Virginia Medical Monthly*, July, 1921.

### NEW YORK HOSPITALS

Forty-six hospitals in New York, classed as non-municipal, face an aggregate deficit of more than \$3,000,000 next year, according to the annual report of the United Hospital Fund. The deficit is due to the increased cost of maintenance, particularly of free wards.—(*New York Medical Journal*.)

### LIFE OF COLLEGE-BRED WOMEN

College-bred women live longer than uneducated according to a study made by Myra M. Hulst of the American Red Cross. The death rate among college graduates between the age of twenty-five and thirty-four was 2.77 per one thousand, but it was 6.10 for women in the general population.

### THE PACIFIC NORTHWEST MEDICAL ASSOCIATION

We are informed by Northwest Medicine that a movement is on foot to organize an association to be known as the Pacific Northwest Medical Association, to include the states of Oregon, Washington, Idaho, Utah, Montana and the Province of British Columbia, and other provinces if they desire to participate. "The purposes of this organization shall be to unite the profession of the Pacific Northwest and to bring to the physicians and surgeons of this section the latest Eastern thought in medical progress."

### AMERICAN PHYSICIANS HONORED

The Royal College of Physicians of Edinburgh has recently conferred membership on Admiral William C. Braisted, Washington, D.C., and Dr. Walter L. Bierring, Des Moines, two prominent members of the National Board of Medical Examiners. This honor is in recognition of the efforts of the National Board in promoting a closer relationship between the old world and the new in matters of medical education. These are reported as the only honorary memberships conferred by the college referred to since 1809.—*Journal of A. M. A.*, November 26, 1921.

### ADVERTISING IN MEDICAL JOURNALS

The medical journals that really wanted to serve the profession first of all have served themselves by doing so. Witness the advertising pages of the better medical journals for the proof of this, and the rapidly thinning pages of the old type of commercial journal. The prominent and splendid lay journals are possible only because they adopted the modern views on truthfully advertising goods for which there is a legitimate demand. These same magazines are serving their subscribers in their advertising pages. So are the high-grade medical journals. It is becoming increasingly difficult for the low-grade commercial medical journals to survive. This is exactly as it ought to be and there is no valid reason why an eminently professional and ethical medical publication should not run just as many pages of clean and service-giving advertising as it can get to run. Most doctors appreciate this fact.—(*Medical Council*.)

### CHICAGO PHYSICIANS HONORED

Dr. Ludwig Kektoen had conferred on him the honorary degree of doctor of laws at the Centennial Celebration of the University of Cincinnati.

Dr. Dean Lewis and Dr. Edward O. Jordan received the degree of doctor of science at the same time.

North Dakota has a committee on medical history which made preliminary report at the meeting at Minot, June 14, 1920.



### LIFE EXPECTATION

According to a bulletin recently issued by the Metropolitan Life Insurance Co., the health conditions prevailing among the wage earning groups of the United States and Canada for the first quarter of 1921 were the best that ever have obtained during this season of the year. The span of man's life is now "three score years and fourteen," according to Dr. George W. Hoglan, secretary of American Insurance Union. Dr. Hoglan says careful investigation shows the average life has been lengthened four years, in spite of added risks and perils of the twentieth century.—*Boston Medical and Surgical Journal*

### LOSSES IN THE PROFESSION IN ITALY DURING THE WAR

The *Riforma Medica* cites recently published statistics to the effect that 1,060 members of the medical and nursing professions in Italy died from wounds or illness contracted at the front. This includes 317 army physicians, 10 in the navy, 42 of the Red Cross service and others in the merchant marine, to a total of 377 registered physicians. There were also 216 medical students killed and 40 pharmacy students, 23 veterinarians and 22 veterinary students. Orderlies, nurses and others bring the total to 1,060, and 300 of this number had been decorated for special gallantry or devotion or both. Of the 377 physicians, 30 died in prisons in Austria-Hungary or Germany, or at the front in Macedonia, Albania or Lybia.—(*The Journal of the A. M. A.*)

### MEDICAL NEWS NOTES

Following a precedent established by Blackhawk county some time ago, the duties of the Mahaska county physician are to be assumed by the entire membership of the Mahaska County Medical Association.

Members of the association will handle county cases as physicians and surgeons in a manner to be chosen by that organization.

Ordinary county cases will be rotated within the membership and specialists will be in charge of special cases.

When occasion demands experts are to be brought here at no additional expense to the county, and county patients given the best treatment procurable.

For this service the association will receive \$1,200 annually, payable at \$100 per month.

The county reserves the right to cancel the contract any time the service proves unsatisfactory.

To assure the legality of the move the board contracted with Dr. F. A. Gillett, "and others"—the others being the following members of the county association: Drs. F. J. Jarvis, E. M. Williams, W. S.

Windle, C. J. Lukens, B. O. Jerrel, R. M. Gillett, P. M. Day, J. E. Morgan, J. C. Barringer, F. A. Ruan, B. G. Williams, C. A. Abbott, L. A. Rodgers, S. W. Clark, C. N. Bos and E. B. Wilcox.

Under the terms of the contract the association will furnish medical and surgical care and treatment, drugs and dressings for county patients, excepting those in hospitals, pest houses, detention hospitals and the county home.

The county will furnish the x-ray work.

The membership too, will advise and represent the county and state in all criminal and damage cases at no additional expense, save ordinary witness fees, and will not enter the employ of those opposed to the county or state without the permission of the county.

The association succeeds Dr. K. I. Johnston as county physician.

The physicians of Cherokee county have agreed to do all of the county work for \$3,500. They are subject to call by the poor at any time and agree to respond. The contract is unique in Iowa.

Dr. W. A. Rohlf, Waverly, was re-elected president of the Medical Life Insurance Company of America at the second annual meeting held at the Hotel Russell-Lamson. W. F. Getsch, Nashua, was elected vice-president and chairman of the board; Dr. C. E. Dakin, Mason City, vice-president; Dr. J. E. Brinkman, Waterloo, vice-president; J. V. Gregory, Parkersburg, chief counsel; H. W. Wilhelm, president of the Beaver Valley State Bank, Parkersburg, treasurer; E. L. Rohlf, Waterloo, chief medical director; I. G. Londergan, Waterloo, secretary and general manager.

This company received license to do business August 13, 1921, and wrote the first policy September 7, the same year and since that time have put on the books over one-half million dollars of paid for and accepted business. Over \$300,000 pending business upon which applications have been received will be closed in the near future.

This company which has its home office in Waterloo is at the present time operating only in Iowa but plans have been completed for branches in Missouri, Minnesota and South Dakota.

The following board of directors was also elected at this meeting: W. A. Rohlf, Waverly; E. L. Rohlf, Waterloo; J. E. Brinkman, Waterloo; H. W. Wilhelm, Parkersburg; J. V. Gregory, Parkersburg; W. F. Getsch, Nashua; I. J. Londergan, Waterloo; W. H. Ross, Waterloo; W. H. Rendleman, Davenport; G. N. Ryan, Des Moines; J. B. Miner, Charles City; F. A. Blardmore, Charles City; G. F. Heitz, Charles City; C. E. Dakin, Mason City; J. W. Rown-tree, Waterloo; E. G. Meir, Nashua; J. E. Ridenour, Waterloo; A. A. Hoffman, Waterloo; L. H. Goodale, Nashua; F. E. St. Clair, Hampton, and F. A. Haffa, Waterloo.

## SOCIETY PROCEEDINGS

### Boone County Medical Society

The Boone County Medical Society held their regular meeting Tuesday evening, January 31 in the Chamber of Commerce rooms. The topic up for discussion was Pneumonia. The out of town members of the society who were present included Dr. Ganoe and Drs. Clark and Clark of Ogden.

### Calhoun County Medical Society

Rockwell City physicians are entertaining the members of the Calhoun County Medical Society and physicians from surrounding counties in Rockwell City January 19. A feature of the session was an address by Dr. Frank E. Sampson of Creston, noted authority on public health matters. Dr. Sampson will address a public meeting at the court house. Everyone is invited to hear his lecture on Community Health.

### Cerro Gordo County Medical Society

Meeting of the Cerro Gordo County Medical Society was held in the Chamber of Commerce rooms, Mason City, Tuesday evening March 21, 8:00 p. m.

Twenty members were present and after a short business meeting the following program was given:

Tonsillectomy in the Treatment of Systemic Disease, by Dr. Wilbur L. Diven. Discussion was opened by Dr. C. E. Cheneweth.

Indications for Surgical Interference in Chronic Otitis Media, by Dr. H. D. Fallows. Discussion followed by Drs. F. G. Carlson, C. E. Cheneweth and W. L. Diven.

W. L. D., Sec'y.

### Davis County Medical Society

The Davis County Medical Society met Monday night January 30, 1922, and enjoyed an excellent program on the subject of Scarlet Fever.

Officers for the year 1922 were elected as follows: President, Dr. J. G. Stone; vice-president, Dr. C. C. Heady; secretary-treasurer, Dr. H. C. Young.

Dr. Stone was selected as delegate from the county society to attend the state medical association convention. Dr. H. C. Finch of Pulaski was selected as alternate.

The subject of the next program will be Pneumonia. Dr. C. D. Skelton will conduct the program, having had a recent personal experience with the disease that makes him peculiarly informed and fitted to treat the topic from all angles, that of the patient as well as that of the physician.

### Hamilton County Medical Society

The Hamilton County Medical Society met at the Willson Hotel January 31 for a 7 o'clock dinner and program.

Dr. R. A. Weston, Des Moines, guest at the meeting, presented a paper on Indications for Nephrec-

tomy in Renal Stone. The talk was illustrated with x-ray plates. Following Dr. Weston the subject was discussed by Drs. McCauliff, W. W. Wyatt, R. C. Crumpton, C. J. Reed, E. W. Slater and R. M. Wildish.

Dr. M. B. Galloway presented a case of Cardio Spasm of the Esophagus. He gave a discussion of the condition and a demonstration of the method of treatment.

Fifteen members attended the meeting. The next meeting of the society will be held February 20.

### Linn County Medical Society

The largest meeting of the Linn County Medical Association ever held was that at Hotel Montrose January 16 when more than 100 members of the profession heard two noted physicians, Dr. Cassin C. Rogers of Chicago, and Dr. Hugh Cabot, professor of surgery at the University of Michigan, speak. Dr. David E. Beardsley, president of the organization, introduced them.

Physicians from Cedar Rapids, neighboring towns of the county, Waterloo and Des Moines were in attendance.

Following the program there was a buffet luncheon served, at which Drs. Krause, Petrovitsky, Houser, and Welch were the hosts.

### Mahaska Medical Association

Incorporation papers have been filed with County Recorder Frank J. Evans by the Mahaska Medical Association and signed by Drs. F. J. Jarvis, S. W. Clark, S. W. Hartwell, E. M. Williams, F. A. Gillett, C. A. Ayres, K. L. Johnston and C. N. Bos.

The articles of incorporation were executed February 1, 1922, and provide for both active and honorary members and the association is organized for the purpose of advancement in medical science and the promotion of public health and hygiene.

The annual meeting is designated as the first Tuesday in January in each year and the officers are a president, vice-president, secretary and a treasurer, as well as a board of trustees and a board of censors.

The officers elected for the first year are: President, F. J. Jarvis; vice-president, J. A. Ruan; secretary, F. A. Gillett, and treasurer, B. O. Jerrel. The trustees are S. W. Clark, K. L. Johnston and E. M. Williams. The board of censors are B. O. Jerrel, S. W. Clark and F. J. Jarvis.

The officers are elected each year by the members and the ones selected for the board of trustees and the board of censors are elected for three years.

### Pottawattamie County Medical Society

Pottawattamie County Medical Society held a community medical discussion at Mercy Hospital Tuesday, January 24. A luncheon in connection with the meeting at 12:30 o'clock.

The following is the program arranged:

Dr. A. V. Hennessey, Council Bluffs, Hypernephrona. Presentation of a case.



Dr. T. B. Lacey, Glenwood, Mongolianism. Illustrated by x-ray plates. Presentation of cases.

Dr. William Jepson, Sioux City, subject not announced.

Prof. S. G. Alcock, Iowa City, The Diagnosis of a Chancre; Its Importance and Technique.

Prof. C. P. Howard, Iowa City, The Differential Diagnosis of Jaundice.

Present officers of the society are: Dr. M. E. O'Keefe, president; John McAtee, vice-president, and Dr. A. A. Robertson, secretary. The program reorganization committee is composed of Dr. Don Macrae, Jr., G. A. Spaulding and M. E. O'Keefe.

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#### Wapello County Medical Society

The Wapello County Medical Society, which held its regular monthly meeting March 7 at the office of Dr. A. O. Williams, was presented with a gavel, a gift from Captain H. A. Spilman. The gavel, which is silver mounted, is made of koa wood, a hard native wood much used in Hawaii.

Captain Spilman, who is the son of Dr. S. A. Spilman is a member of the regular army medical corps and for the past year and a half has been stationed in Honolulu.

The principal speaker at the meeting, at which Dr. F. W. Mills, presided, was W. H. Powell, managing editor of The Courier. His subject was Quacks and Cure Alls.

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#### Scott County Medical Society

Pneumonia, followed by an open discussion featured the meeting Tuesday, February 7 of the Scott County Medical Society, held in the Davenport Chamber of Commerce. Drs. George Braunlich, L. H. Kornder, W. H. Rendleman, F. Lambach and H. Meyers gave informal talks, after which Drs. F. H. Lamb, J. E. Rock and L. Guldner took part in the discussion.

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#### Davenport Radium Institute

Officers were elected at the annual meeting yesterday of the Davenport Radium Institute held in the office of Dr. W. H. Rendleman when the following were named to serve: President, Dr. W. H. Rendleman; vice-president, Dr. F. J. Otis, Moline; secretary, Dr. P. A. White, Davenport; treasurer, Dr. B. H. Schmidt, Davenport.

The board of directors were re-elected and consist of the above named and Dr. J. W. Seids of Moline, Dr. D. B. Freeman of Moline and Dr. S. G. Hands of Davenport.

It was reported that the institute is expanding satisfactorily, over forty cases having been treated and the members voted to buy another twenty-five milligrams of radium swelling the amount of its stock to 100 milligrams. It was voted to employ a full time nurse.

#### Iowa Clinical Surgical Society

Dr. E. Starr Judd and W. F. Braasch of the Mayo Brothers' Hospital at Rochester, Minnesota, are among the distinguished surgeons who attended the clinic of the Iowa Clinical Surgical Society at the Iowa Lutheran Hospital recently.

Other surgeons of note present in the city for the clinic are Drs. Dean Lewis and Hopkins, chief surgeon of the Northwestern Railroad Company of Chicago, and Dr. John E. Summers of Omaha.

The clinic is being conducted by Dr. Charles Ryan, Dr. J. C. Rockafellow, Dr. O. J. Fay, Dr. Wilton McCarthy and Dr. W. W. Pearson.

The surgical society has a membership of about twenty-five surgeons, and has as its president Dr. Wilton McCarthy, with E. R. Shannon of Waterloo, secretary.

Surgical operations were performed this morning, and discussion occupied the afternoon hours. The organization meets four times a year at various places in the state.

Delicate surgical operations requiring the most expert technique were performed at Iowa Lutheran Hospital January 28, 1922, by members of the Iowa Clinical Surgical Society at the first of their three annual meetings held there. Twelve operations were performed by the visiting surgeons.

Officers for the present year were elected as follows:

Dr. P. B. McLaughlin of Sioux City, president; Dr. W. A. Rolf, vice-president; Dr. E. R. Shannon, secretary and treasurer. Dr. Wilton McCarthy of Des Moines, the retiring president.

Three prominent surgeons from outside the state, Dr. J. Hollowbust of Rock Island, Illinois; Dr. J. E. Summers of Omaha, Nebraska, and Dr. G. G. Cottam of Sioux Falls, South Dakota, were guests of the society at the clinic.

Members of the society and local physicians to the number of forty-five were dinner guests of Dr. W. W. Pearson last night.

Following a brief business session Friday night at the White House Club, East Twenty-ninth street and Madison avenue, the members were entertained by Drs. W. W. Pearson, Charles Ryan, R. A. Weston and Wilton McCarthy.—Des Moines Register.

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#### TUBERCULOSIS CLINIC

All physicians in attendance at the annual meeting of the Iowa State Medical Society will be interested in a tuberculosis clinic to be held in conjunction therewith on the afternoon of Friday, May 12, under the auspices of the Iowa Trudeau Society which is affiliated with the Iowa Tuberculosis Association. Arrangements have been made to bring to Des Moines for this occasion George Thomas Palmer, M.D., of Springfield, Illinois, well known tuberculosis specialist, and president of the Illinois Tuberculosis Association.

### A. M. A. NEWS

The seventy-third annual session of the American Medical Association will be held in St. Louis, May 22-26, 1922, and the committee on arrangements report an unprecedented prospect for a large attendance.

#### Hotels

All fellow members expecting to attend, should write at once to the hotel of their choice or their section hotel, or Dr. Louis H. Behrens, 3525 Pine street, St. Louis, Chairman Hotel Association and Convention Bureau.

#### Passenger Rates

The passenger rates for round trip will be one and one-half fare certificate plan, and one certificate will enable the member to purchase tickets for himself and for dependent members of his family.

The certificates are now ready for distribution and can be secured by writing to Dr. Alexander P. Craig, secretary of the American Medical Association, 535 North Dearborn street, Chicago, enclosing a self addressed, stamped envelope.

J. W. Cokenower, M.D.

### HOSPITAL NEWS

Miss Laura Parker, superintendent of Eleanor Moore County Hospital, Boone, has resigned to enter another branch of work.

Miss Beatrice Case of the Washington County Hospital has been elected superintendent of the Eleanor Moore County Hospital, to succeed Miss Laura Parker who has taken up private work.

Sigourney's new hospital, which for a number of weeks has been in the process of overhauling, and rebuilding was opened for patients a few days ago. It is under the management of Drs. Heald and Pfannebecker.

Mrs. Elizabeth Flynn of Davenport was re-elected president of the Sixth district of the Nurses' Association of Iowa, at the annual meeting of the association held January 19 at the public library club rooms. Mrs. Edna Atkinson was re-elected secretary and Miss Ruby Beal was elected treasurer. Two very interesting addresses were given by Dr. L. H. Kornder and Dr. Sara Foulks of Davenport. Dr. Kornder spoke on The Psychology of the Sick Room and Dr. Foulks gave an account of her experiences in Turkey where she was doing Red Cross work. The president read splendid reports of the Iowa state convention which was held in Iowa City in November. There was a fairly good attendance at the meeting.

Dr. B. F. Weston heads the staff of St. Joseph's Mercy Hospital, Mason City, for the coming year. He was appointed to the office at the annual banquet and meeting of the staff members held at the

hospital Monday evening. Other officers appointed are: Dr. R. E. Brisbine, vice-president, and Dr. J. E. Marek, secretary and treasurer.

Committees appointed include the executive committee, Dr. S. A. O'Brien, chairman; Dr. E. Henely, Dr. S. S. Westly and two Sisters of Mercy and record committee, Dr. Raymond Weston, chairman, Dr. C. A. Hurd and Dr. F. G. Carlson. Heads of departments are: Dr. G. S. Westly, medical department; Dr. Raymond Weston, surgical department; Dr. S. A. O'Brien, specialists' department, and Dr. J. W. Kelly, dental department.

New impetus to a movement inaugurated by Clear Lake physicians for the establishment of an adequate and modern hospital in this city was given recently with the announcement that Dr. J. A. Swallum would donate a peculiarly fine site on his lake front property for this purpose, the value of which is conservatively estimated at \$4,000 and six other local physicians, Drs. E. F. Smith, J. H. O'Donoghue, H. E. Farnsworth, A. G. Gran, E. D. Banghart and U. S. Parish, each pledged \$1,000 to the cause.—Storm Lake Tribune.

Friday afternoon, February 3, a meeting of the members of the Ogden hospital was held at the city hall for the purpose of electing new officers.

Following is the result: President, Henry Klippel; treasurer, W. M. Rosen; secretary, Mrs. Wm. Jons; board of trustees, T. E. Beck, C. H. Williams, Mrs. C. Thomas, Mrs. Alvin Treloar, Mrs. E. Rockwell and C. E. Cook.

"Sarton Hospital," gift to the city (Cedar Falls) through bequest of the late Joseph Sarton, Sr., and contribution by his son, Joseph Sarton, Jr., "is not a charitable institution and takes no charity patients," according to H. S. Gilky, vice-president of the hospital board.

We are also informed that this hospital receives a millage tax of from \$4,000 to \$4,800 per year.

This is the only hospital of the kind in the state, unless it be some private hospitals. We are led to infer that there are no poor people in Cedar Falls, or if there are, they are left to care for themselves. We trust that the brutal quotation above noted does not fairly represent the sentiment of what we have supposed to be a city of high ideals.

A judgment of \$15,000 was awarded Robert Stine of Indianapolis, against the St. Vincent Hospital of Indianapolis by a jury in the Hendricks circuit court. The jury was out less than twenty minutes, and it awarded the full amount sought in the suit.

Mr. Stine was a patient at the hospital in March, 1917. According to the testimony, after undergoing an operation he was placed in a ward where, while still unconscious, a nurse laid a hot water bottle on his left foot and left him. His foot was so badly burned that amputation was necessary a few weeks later, it was testified.



Attorneys for the hospital filed a demurrer to the complaint, setting forth the argument that the hospital was a charitable institution and therefore not liable for damages. Judge Dougan overruled the contention and excluded evidence that the hospital property was not listed for taxation in Marion county.

—Indianapolis Medical Journal.

Miss Adele Northrop, superintendent of Finley Hospital, has announced that a series of lectures on medical subjects would be given at the hospital on Thursday afternoons at 4:00 o'clock. The subjects chosen are those of particular interest to the public and are similar to those given at the larger hospitals throughout the country. The object of the lectures is to give the public fundamental knowledge of the early characteristics of certain diseases so that they may know how to detect them in early stages, have them treated and prevent an incurable condition.

The following is the list of the topics and the dates they will be given:

March 9—What the Public Should Know About Cancer—Dr. E. P. McNamara.

March 16—How the Public Health Laboratory Protects Your Health—Harold A. Grimm.

March 23—What an Adequate Diet Means—Mary Cunningham.

March 30—Diphtheria: Detection: Modern Treatment: Prevention: Demonstration of Schick Test—Dr. F. P. McNamara.

April 5—The Nurses' Training School as a Community Asset—N. Adele Northrop.

April 13—Holy Week—No lecture.

April 20—Are You Getting What You Pay For?—Harold A. Grimm.

April 27—What Hospital Standardization Means to the Community—Dr. F. P. McNamara.

The board of directors of the Community Hospital, Grinnell, tendered a banquet to the newly elected medical staff at Hotel Monroe Saturday evening, February 25.

Several medical men were in from surrounding towns. After a very enjoyable social time Chairman Kiesel of the board called the company to order and expressed to the physicians present that it was desired that they organize and appoint a committee to frame hospital rules to be submitted to the board for approval. Dr. O. F. Parish was elected chairman of the staff. Dr. E. B. Williams of Montezuma, vice-chairman and Dr. P. E. Somers, secretary. A very free, frank and informal discussion was participated in by every one present with the result that there was a practically unanimous opinion as to the principles and policies to be pursued in the management and conduct of the hospital. Every one was enthusiastically hopeful as to the outlook and usefulness of the hospital as one of the greatest assets to Grinnell and Poweshiek county. A number of physicians elected to the staff were away from home and un-

able to be present. Those present were, of the board of directors, F. J. Kiesel, H. S. Lowrey, Dr. O. H. Gallagher, G. O. Watland and W. C. Wasser.

The following doctors also were present: C. H. Lauder, O. F. Parrish, L. L. Gould of Kellogg, G. B. Ward of Gilman, C. D. Busby of Brooklyn, L. A. Hopkins, J. R. Lewis, P. E. Somers, W. W. Hansell.

## PERSONAL MENTION

Dr. Hamstreet of Clear Lake has purchased the practice of Dr. Clapsaddle who expects to enter the government service at Philadelphia, Pennsylvania.

Ten thousand dollars in damages is asked of Dr. W. H. Bickley of Waterloo by Rose Curry, widow of Hugh Curry, who died after being struck by an automobile owned by the Doctor February 4 on Rainbow drive. The petition charges that at the time of the accident which resulted in Mr. Curry's death, the car was being driven by Demetri Subeff, Dr. Bickley's chauffeur. Dr. Bickley was at that time in Chicago. Subeff had taken Elias Bickley, the Doctor's father, to Hudson for a visit. While there Subeff took three of the Hendry children for a ride. It was while on this drive that they overtook Mr. Curry who was walking on Rainbow drive. He was run down and fatally injured. There were conflicting stories as to who had the wheel when Curry was struck, although all say Alonzo Hendry took the driver's seat at Electric park. The petition claims that Mr. Curry was not guilty of negligence. It is claimed that at the time of the accident Subeff was in charge of the car and that he was the agent, servant and employe of the owner of the car. The complaint states that the collision with Curry was the proximate result of the negligence of Subeff. Interest in the Curry family is best gauged by the contributions made by people of Waterloo and surrounding towns. Hudson people raised a purse of about \$115.

Dr. F. J. McAllister, who with his family has been in Los Angeles since last August, has written Dr. A. J. Meyer recently that the condition of his health has shown such marked improvement during the past few months that he expects to be able to return to Hawarden this spring and resume active medical practice.

Dr. Eva M. Blake, national Y. W. C. A. secretary, who gave a series of lectures recently to the girls of Drake University, Des Moines, Iowa, is the inspiration for a number of social courtesies. Monday night, March 6, Dr. Blake was a dinner guest at the home of Dr. Sophie Hinze-Scott, 1300 East Grand avenue, who entertained the club of women physicians. Dr. Jeanette Throckmorton was also a club guest. Covers were arranged for Doctors Helen Johnston, Mary Hurd, Nelle Noble, Alice Humphrey Hatch, Grace Doane, Ella Gray, Mae Habenicht, Jennie Coleman and Mrs. Daniel Glomset.

Dr. C. S. Short of Chicago, is expected today to join the Dr. Bamford clinic. He takes the place vacated by Dr. V. E. Dudman who left Wednesday

for Portland, Oregon. Dr. Short has been specializing in internal medicine and obstetrics, which will be his main practice here.

At the annual meeting of the medical section of the American Life convention, held at French Lick Springs, Indiana, March 1, 2 and 3, Dr. G. E. Crawford medical director of the Cedar Rapids Life Insurance Company, was unanimously elected president of this body for the coming year. The American Life convention is composed of a membership of about 120 of the leading old line insurance companies in the United States. The medical section is a very important part of the association and they hold their own convention each year.

The physicians who are to occupy the new \$80,000 Clinic building at the corner of First avenue north and Tenth street, Ft. Dodge, are moving their office furnishing today into their new quarters. The building is not yet complete in some details of decorating, etc., but sufficiently complete for the doctors to carry on their practices. In a week or two they will have an official opening. The men who are moving in today are Drs. A. M. McCreight, A. A. Schultz, E. F. Beeh, S. D. Jones, S. B. Chase, J. F. Studebaker, J. J. Foley and C. G. Field.

Dr. William Bruff of Atlantic sails early in February for Seonl Korea where he will teach bacteriology in Serrerrance, accompanied by his wife and son Joseph.

Dr. M. F. Smith of Wesley has moved to Britt where he will practice medicine. Dr. Smith served in the U. S. Medical Corps overseas with the rank of captain.

Dr. Park Findley, veteran of the Spanish-American War, the Filipino insurrection and the World War, has announced himself as a candidate for the republican nomination for sheriff, Polk county.

Dr. L. G. Patty has closed his office at Carroll and become connected with the Carroll Clinic as surgeon.

Fontanelle friends are advised of the arrival in this country of Dr. W. H. Bell, Fontanelle, on his return from a long service with the Red Cross in Turkey. Dr. Bell spent two and a half years in Turkey, rendering such meritorious service that he was decorated by the Turkish government. He was director at different times of hospitals at Smyrna and at Narash. On leaving Turkey Dr. Bell toured through Palestine, Syria, Egypt, India, Philippines, China and Japan.

Dr. Ralph W. Mendleson, formerly of Des Moines, according to word received here, has been decorated recently by the government of Siam with the Order of the White Elephant and by Serbia with the Order of St. Sava. For the past six years Dr. Mendleson has been connected with these governments in sanitation work.

Dr. M. F. McMeel of Lost Nation, Iowa, has moved to Clinton and secured office rooms in the Wilson building.

We are informed through the daily press that Dr. D. C. Brockman and Dr. S. A. Spillman of Ot-

tumwa were the guests of honor at a banquet given by the Wapello County Medical Society, February 28, Dr. Charles B. Taylor, toastmaster.

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## OBITUARY

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Dr. W. E. Grigsby, prominent Burlington physician, passed away January 7, 1922, at 8:30 o'clock in his home, 807 South Central avenue. He had been ill only a week. He was stricken with a severe attack of apoplexy and Dr. Campbell, who had been attending him was summoned. When he arrived at the home, the patient was dead.

Dr. Grigsby was born near Bardstown, Kentucky, in 1862 and was fifty-nine years old. He was a man of exceptional ability and a graduate of two medical colleges. He had taken post graduate courses in New York, Chicago and Louisville.

He came to Burlington to practice his specialty in 1917. He is survived by his wife, daughter and a brother.

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William L. Crowder of Deep River was born November 16, 1840, in Sangamon county, near Springfield, Illinois. In 1843 he came with his parents to Iowa and lived on a farm in Mahaska county until he was sixteen years of age, when they moved to Oskaloosa. After completing the public school course he studied medicine in the office of Dr. F. M. Coolidge from 1860 to 1864 and then took a year's course of lectures in Rush Medical College. Returning to Iowa he located at Springfield in Keokuk county where he practiced medicine from 1865 to 1876, with the exception of one year which he spent completing his medical course at Rush Medical College, from which institution he graduated in 1870. In 1876 he moved to Rose Hill where he practiced his profession until 1884 when he moved to Oskaloosa and there continued his medical practice until 1910 when he retired. He continued to live in Oskaloosa until the fall of 1918 when he moved to Deep River and made his home with his daughter, Mrs. C. N. Cox where after a brief illness he passed away February 9, 1922, aged eighty-one years, two months and twenty-four days.

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Dr. John Nevins of Butler died at his home July 25, 1921, of diabetes. He had practiced in Butler forty years. Three years ago he retired from practice and had been confined to his house and bed for several months. Dr. Nevins was a member of his county medical society and the Iowa State Medical Society.

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Dr. Charles Montgomery Wade, fifty-four years old, prominent Sioux City physician, and resident of Sioux City since 1893, died at 3:30 o'clock February 5 at his residence, 1010 Tenth street.

The veteran physician was born at Stanwood, Iowa, April 28, 1868, and was the son of Mr. and Mrs. John I. Wade. He attended the country



schools and spent the early part of his life at Stanwood.

Several years later he entered the Iowa State College at Ames and was graduated in 1889. The next year he returned to the college and took a post graduate course. He also attended the medical department of the college at Iowa City. For several years he was an instructor in both colleges.

In 1893, Dr. Wade came to Sioux City and entered the medical school, formerly located in the Methodist hospital. He taught chemistry and mathematics for several years. He was graduated from the Sioux City medical school in 1896.

For two years he practiced medicine at Castana, Iowa. He returned to Sioux City and married. He then took a post graduate course in the medical school in Sioux City. In 1899 he opened his first Sioux City office and has been actively engaged in business ever since.

Dr. Wade at one time was president of the Sioux Valley Medical Association and about twelve years ago was coroner of Woodbury county.

James W. Groom was born at Melbourne, Australia, November 3, 1884, and died suddenly at his office in Greene, from a hemorrhage in the brain, on January 6, 1922, at the age of thirty-seven years, two months and three days. He was the youngest of a large family of fifteen children. His early life was spent in the home of his birth. At the age of nineteen he came to America and almost immediately entered Drake University where he pursued his medical course finally receiving his degree in 1911 and his state license on June 14 of that year. His study at Drake was interrupted for a time by an uncertainty as to what his life work should be. This led him to take a course in theology at the Texas Christian University, Waco, Texas. He later, however, decided to become a physician in which field he distinguished himself with splendid skill and ability.

He came to Greene about ten years ago, immediately upon the completion of his university work, and began a practice which has steadily grown with the years. At many times the duties that came to him to perform overtaxed his natural vigor and health. How frequently did he know what it was to "Be weary in well doing" as have all true men of his profession.

On November 3, 1919, he was united in marriage to Bernice Kohlhaas at Minneapolis. Early in December of that year he returned with his bride to Australia to enjoy that happy reunion with friends and relatives. A joy that was not without its tinge of sorrow for both the aged father and mother had passed away a few years previously.

They returned to America in April, 1920, when he again resumed his practice in Greene. He leaves no relatives in America except his wife and little three-months-old daughter, Shirley.

It was a matter of deep satisfaction to the deceased to be able, after a long series of delays, to

get his final papers admitting him to citizenship in the United States. This was accomplished in September of last year.

The following doctors, representing the Butler County Medical Society, were present at the funeral: Drs. Smith, Day and Young, Clarksville; Dr. Ensley, Shell Rock; Dr. Hobson, Parkersburg; Dr. Reeve, Allison; Dr. Roder, Aredale and Drs. Call, Bigelow and Birney, Greene. Dr. C. J. O'Keefe of Marble Rock was also in attendance and on Sunday, Dr. John O'Keefe of Waterloo, paid his respects.

Dr. Groom was a member in good standing in the following medical societies: Fellow of the American Medical Association, Iowa State Medical Society, Tri-State District Medical Society and Butler County Medical Society.

Dr. William Edward Ely of Ochevedan who died February 12, 1922 was born March 16, 1861, in New York City. With his parents he removed to Kalamazoo, Michigan. He was educated in the schools of Kalamazoo and in 1885 he graduated with a degree of Doctor of Medicine from the University of Michigan at Ann Arbor. He began practice in Battle Creek, Michigan and two years later, 1887 he located at Ochevedan.

Dr. Ely was married to Miss Alice Kirby of Kalamazoo, Michigan. Mrs. Ely passed away in September, 1915. No children survive.

Jesse Franklin Stong, son of Jacob and Cynthia Stong, was born at Kilbourne, Iowa, April 18, 1874, and died in Barada, Nebraska, of apoplexy, February 7, 1922. He was in his usual good health up to within a few minutes of his death.

On October 29, 1900, he was married to Miss Wilda Barker of Mt. Zion, Iowa, and to them were born three children: Helen Webb, William Dean and Robert Burns.

He graduated from the Keokuk Medical College, class of 1900, and the following year practiced medicine in New Mexico. Since then, with the exception of the time spent in the World War, he practiced in Nebraska. He volunteered for service in the medical department and was given rank of first lieutenant. He was in three major engagements and while at Argonne Forest was twice gassed.

Dr. William Henry Myers was born in Laran, Illinois, January 26, 1858, and died in Sheldon, Iowa, February 7, 1922, age sixty-four years and twelve days.

He grew up to young manhood in the neighborhood of Eleroy, Illinois, working on the farm and teaching school.

In 1879 he entered Rush Medical College of Chicago and graduated in February, 1882.

On June 15, 1882, he was married to Anna Elizabeth Richard of Eleroy, Illinois, and moved immediately to Laran, Illinois, where he practiced medicine for a year and a half.

In November, 1883, he moved to Holstein, Iowa,

where he remained until June, 1884, when he moved to Aurelia, Iowa.

In August, 1889, he came to Sheldon, where he has since lived.

Seven children were born: Ellersle B., Brenda Fern, Loyal Richard, Judson Wm., Gladys R., wife of L. A. Henderson of Sheldon; Lynn L. and Margaret Elizabeth, wife of Dr. F. Nelson of Sheldon. All of the children are living except Brenda Fern, who died at the age of fifteen.

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March 6, 1922

Dr. D. S. Fairchild, Editor,  
Journal of the Iowa State Medical Society.  
My Dear Dr. Fairchild:

At the request of Dr. A. P. Stoner, president of the Polk County Medical Society, Des Moines, the surgeon general asks that if you think proper you publish the following in an early issue of your Journal:

"Washington, D. C., March 6, 1922.—It has several times recently been brought to the attention of the surgeon general's office that a concern in Des Moines known as the Pulvane Laboratory has issued a pamphlet and other printed matter in which statements are made implying that the experiments and studies referred to therein were made with the sanction and under the direction of the medical department of the army. I wish to say that this is not so and that the medical department of the army has not been concerned in any way with the matter, and furthermore, that it thoroughly disapproves of the methods employed by the promoters of this concern.

(Signed) C. R. DARNALL,  
Colonel, Medical Corps, U. S. A., Executive Officer, Surgeon General's Office, War Department."

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March 2, 1922.

Dr. D. S. Fairchild, Sr.,  
Clinton, Iowa.  
Dear Doctor:

In the February, 1922, Journal appeared the trite and well written article of Robert T. Morris, F.A.C.S., on "The Outlook for the Fourth Era of Surgery." Had the word medicine been used instead of surgery in the subject and the text recognized surgery as a branch of medicine and not the whole thing this epistle would not have been penned.

Morris appropriates the work of Pasteur, Wright and Metchnikoff, also the discovery of anesthesia to surgery. The department of surgery has become most prominent during the past twenty-five years. It is also a fact that the distrust of the medical profession by the public has become great during this time. Quite likely surgery has been a cause, causing a commercial atmosphere to creep into medicine, with the fee splitting and unnecessary operation features attending. Many surgeons forget they hold the degree, Doctor of Medicine and that surgical

technic is all that is necessary to the business of surgery. They over value surgery in direct proportion to the way they under value all other branches of medicine.

Dr. Morris states in closing that he cannot predict "what the fifth or sixth eras of surgery will be." I hope that the fifth era will be "the safe and sane era" of medicines and its branches, and that it will take place real soon and last a long time.

Fraternally,

JOHN W. SHUMAN.

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January 31, 1922.

Editor, Iowa Medical Journal,  
Clinton, Iowa.  
Dear Sir:

I wish to tell you about a recent experience of mine; it may be instructive and helpful to others. I am a middle aged man, always strong and healthy. For quite a long time I have been a little constipated and on having a hard lumpy passage would have a sharp, tearing, stinging pain, just for a second. Then would find a drop or two of blood on the first portion of the stool, and on using the toilet paper, would find a drop or two of bright blood. For one-half to an hour, there would be a smarting uneasy feeling around the orifice, then all right until the next day.

A few months ago, I read in the paper a warning that one with these symptoms after middle life should be examined for possible cancer, so I took a day off from business and went to the Metropolis to see a famous doctor.

I told him my only trouble, and asked him to examine my rectum. He at once began to take my personal history. He dug up my entire past, measles, whooping cough, itch, everything I ever had or have done, age, birthplace, height, weight, vi. precipitation, temperature, etc.

He asked me if I had ever had pneumonia or been associated with a consumptive. He found I had never had syphilis and only the average number of doses of clap. Then he began to pick on my grand parents and distant relatives. Neither of my grandfathers were drunkards nor had grandmother had fits. My uncles and aunts were just average normal healthy people. Then after insulting the memory of my parents, he began on my children, but I convinced him they were all right or at least he let up on them.

Then he looked over my eyes, ears, nose, throat, teeth and neck. At this time I again told him that my only complaint was lower down and that we were wasting time, but he sadly but firmly told me that "anything worth doing at all was worth doing well."

As it was too late now, for the early train home, I let him have his way. He stripped me, listened over my chest, thumped me fore and aft, punched my stomach with his fist, handled my intimate parts in a scandalous manner. Then he pushed a long instrument which he called some kind of a scope up



into my rectum for a foot or more. Then he took a little hammer and pounded my knees and various parts of my body and limbs, tickled my feet and a lot of other stunts.

I forgot to say that previous to this, he had taken a sample of my water and had given me a glass of water and a few crackers to eat, and also took a few drops of blood from my ear and said something about hemoglobin. After he let me up from the barber chair and had me dress myself, he came with a long rubber tube and ran it down my throat and pumped his test meal out, and gave the contents to the same assistant who had taken the urine for examination.

After a while this nice looking lady came back and reported the urine as normal only she had found two germs of some kind. I did not learn their sex.

The stuff from my stomach had some kind of free acid in it. I don't know how it got there at all as I had drank nothing of the kind.

Well the next thing was, that he wished to have an x-ray of my stomach. Well as I had to stay all day in the city anyway, and he seemed to be enjoying it all I consented. We went down several stories to his friend's office. There they gave me a quart of something to drink that was a poor substitute for even home brew and began to take observations of my internal structures, talking in the meantime in a low solemn manner. Then we went back up stairs again and after finding out what I ordinarily ate and enjoyed, and the things I loathed, he forbade the former and prescribed the latter. He ordered me to give up all active business, stop smoking, to stay in bed most of the day, and to come back in two weeks. He also recommended me to visit an eye specialist whose card he gave me.

Well, I returned home a chastened sad wreck of the sturdy man who had left so cheerfully in the morning. I forgot to say he extracted \$37.50 from me for himself and his fellow conspirator down below. But to continue I ate the things I hated, neglected my work, tried to find where I felt the worst. Of course the few drops of blood still showed part of the time.

Finally my wife insisted I should see our old family doctor, "an old fossil," said I, "he don't know enough to pound sand in a rat hole, even if he had some one to hold the rat for him." But I went just the same as I always do when Jane tells me to. The old Dock bent me over a chair, pulled buttocks apart and told me to strain and bear down. Then he got a little stick with a wisp of cotton wound on it, and a bottle of medicine which I saw was marked carbolic acid, though he seemed anxious to conceal the label. He again bent me over the chair and told me it would hurt a little. It did, that was no dream, it was a nightmare, but Dock said it would feel better when it quit hurting. It did. He told me he had not found any piles, only a fisher. I don't know how this fisher got there, or what he was fishing for.

Dock told me to come back in three days which I did. He said I was cured and I find I am. Life is again bright and worth living.

Yesterday I asked Dock for my bill and the old robber said two dollars. The old foggy had not given me twenty minutes of his time. Don't you think that old fossil should be put out of business as a profiteer? Has he any right to cure a patient in this unscientific way?

Excuse me for withholding my name as I am a modest man, and have already been shocked enough.

Yours truly,

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## BOOK REVIEWS

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### COLLECTED PAPERS OF THE MAYO CLINIC, 1920

Edited by Mrs. M. H. Melish, Rochester, Minnesota; Octavo of 1392 Pages, 446 Illustrations. W. B. Saunders Company, London and Philadelphia, \$12.00 Net.

It is a difficult task to review a book containing such a vast amount of material covering so many subjects. It is difficult to estimate the value of the papers based on the great amount of material at the Mayo Clinic, subject to every test to determine accuracy. To those familiar with the methods at the Mayo Clinic, a feeling must come that we are only left to accept as the last word, the claims set forth in this volume.

The papers are arranged in ten divisions. Under the head of the Alimentary Tract, are twenty titles including 188 pages. The first paper relates to a method of applying radium in cases of Esophageal Cancer by Dr. P. P. Vinson. This paper is interesting on account of apparent difficulties made easy, with a hope of accomplishing something in a class of cases otherwise beyond relief. Dr. W. J. Mayo presents a statistical paper on 'Calloused Ulcers of the Stomach, based on location of ulcer.

Dr. W. C. MacCarthy restates his position in relation to chronic gastric ulcer and carcinoma.

Following is a series of papers on gastric ulcer. Diagnosis by Roentgen Ray, Carmon, Surgical and Non-Surgical Aspects; Eusterman and C. H. Mayo. Then comes one of the W. J. Mayo's philosophic discussions; "Co-ordination of the Functions of the Gastro-Intestinal Tract." F. C. Mann removes the liver in dogs as a means of studying the physiology of the organ. MacCarthy, Jackson and Mann present some studies on Cholecystitis and C. H. Mayo on Cholecystectomy with Modified Drainage and arrives at the conclusion that diseased gall-bladders should be treated by cholecystectomy. Dr. R. D. Carman presents a beautifully illustrated paper on Roentgenology of Tuberculous Enterocolitis. An important paper is by C. H. Mayo under the title Enterostomy, an Operation of Expediency and Necessity.

The second section considers Urogenital Organs and under this head are thirteen papers. Two may

be specially mentioned, one by Braasch and Kendall. Investigation of the Phenolsulphonephthalein Test, and one by Braasch, Roentgen Examination of the Urinary Tract made Opaque. The interest attached to these papers lies in their value in diagnosis. Two important papers in this section relate to the prostate. Dr. Bowing presents a paper on Radium and X-ray treatment of inoperable carcinoma of the cervix and arrives at the following conclusion.

First—Good results have been obtained in cases of early cancer of the uterine cervix by treatment with radium rays.

Second—The procedure of choice in the treatment of inoperable cancer of the cervix is the application of radium to the primary growth.

Third—Deep x-ray therapy will control metastatic growths.

Fourth—Patients with markedly advanced cancer should receive only limited amounts of well screened radium rays, sufficient to control the foul sanguineous discharge and hemorrhage.

Fifth—Patients with extensive cancer of the uterine cervix can be restored by this treatment to their activities for a variable number of years.

Under the head of ductless glands are eleven papers. The papers present a rather full account of the present status of the physiology, pathology and treatment of these most important glands, which exercise such vital influence upon the body, 122 pages are given to this subject.

The section relating to the heart and blood include fourteen papers and present important studies which will appeal to the internist; one of particular interest to the examiners of life insurance, is by Dr. Giffin, under the title of the Relationship of the Anemias to Life Insurance.

There are ten papers on the Skin and Syphilis. An important paper on Epidemic Infections, Jaundice and its Relation to the Therapy of Syphilis, is by Dr. Stokes, Ruedemann, Jr., and W. S. Lemon and presents many important facts.

A long list of papers appear in the section Head Trunk and Extremities, thirty-eight in number. An exhaustive study in Influenza and Pneumonia is prepared by Dr. E. C. Rosenow. This communication is of the highest importance to the medical profession. So much of vital importance is presented that it is quite beyond the limits of this review to do more than call attention to a study which should be read by progressive physicians.

Dr. W. S. Lemon presents a study of a series of eighty-one consecutive cases of Pulmonary Abscess. Bony tumors of the chest wall are not of common occurrence and the paper of C. A. Hedblom on this subject will be of unusual interest.

There are many other papers of interest we must pass over. The final paper relates to surgery, hospitals and men in South America by W. J. Mayo, and will be of much interest. Hitherto our thought in relation to medicine beyond our own country turn to Europe. Dr. Mayo's vast experience in relation to

men and things, particularly medical, render his views of much value, and a contribution of this kind is opportune, at this time, when we are trying to see beyond our own borders.

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## MEDICAL ELECTRICITY ROENTGEN RAYS AND RADIUM

With a Practical Chapter on Phototherapy. By Sinclair Tousey, A.M., M.D., Consulting Surgeon to St. Bartholomew's Clinic, New York City, Third Edition. Thoroughly Revised and Greatly Enlarged. Containing Eight Hundred Sixty-one Practical Illustrations, Sixteen in Color. W. B. Saunders Company, 1921. Cloth, \$7.50 Net.

This book will be found a very valuable reference for the roentgenologist as well as the general practitioner. The author has discussed in general the various phases of electricity, x-ray and radium. This edition is a valuable reference covering the general principles of the various forms of electricity and electrotherapy. The technique of radiography, localization of foreign bodies and fluoroscopy is generally discussed. Forty pages of this edition has been devoted to radium in which is discussed radioactivity.

Bundy Allen, M.D.

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## NEW AND NON-OFFICIAL REMEDIES

During February the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

### Persson Laboratories:

Bacillus Coli Antigen (No. 50)—Persson.  
Furunculosis Vaccine Mixed (No. 37)—Persson.  
Gonococcus Antigen (No. 47)—Persson.  
Staphylococcus Aureus Antigen (No. 49)—Persson.

Streptococcus Antigen (No. 48)—Persson.

Pneumonia Vaccine (No. 36)—Persson.

### Powers-Weightman-Rosengarten Co.:

Novarsenobenzol—Billon.

### G. H. Sherman:

Whooping Cough Vaccine—Sherman.

Mixed Typhoid Vaccine—Sherman.

Acne Staphylococcus Vaccine—Sherman.

### Winthrop Chemical Co.:

Alypin.

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During January the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

### The Abbott Laboratories:

Butyn.

### G. W. Carnrick Co.:

Solution Post-Pituitary.

### Parke, Davis and Co.:

Pituitrin "O".



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## ORATION IN SURGERY—DO WE PROGRESS?\*

W. A. ROHLF, M.D., Waverly

Could Ambrose Pare awake in a modern operating room, he would admit his boast was vain. The surgical leader of his time, how crude his methods today. He never even could have dreamed or imagined the surgical possibilities of the present. With our great accomplishments, we might register the same boast, which in due time would prove vain and our egotism folly. Anesthesia, an agent so powerful in its influence on present surgical progress, a priceless boon to humanity, no longer excites comment or more than passing notice; and yet, the introduction of anesthesia and the science of bacteriology as elements of our progress are so recent in discovery as to be late memories in the minds of many of those present here today. We speak with pride of the safe invasion of the abdomen. Surgery now enters fearlessly the chest cavity, and even the heart has been reached and repaired for traumatic injury. The inmost recesses of the citadel of the brain are no longer immune from the surgeon's invasion and exploration. Then, we could boast of the skill of our specialists; the suturing of blood-vessels, nerves and the grafting of bone; the delicate work on the organ of sight, the reconstruction work of the last few years and the wonders that the principle of focal infection has produced. Focal infection has given an impetus and a new awakening in medical and surgical thought. The studies and observations of those who have given this subject so much time and unstinted effort and work, have given to us tangible reports for consideration that have opened new fields, new understandings, and have advanced the indications for surgery to a more scientific basis.

We cannot here mention all of the incidents of progress and such was not the intention of this brief discourse. Proud as we may be of the surgical accomplishments of the age, I would have

you pause and notice from another point of view the surgical work as a whole, relating to the whole profession and the manner of its practice in general. Have the end results, the practical results, been for real progress and has the sum total of all surgery been for the good of humanity at large?

The matter of focal infection and its teaching has led to extravagance in the dental field, to the ruthless sacrifice of healthy, desirable teeth. It has led to the promiscuous removal of tonsils, diseased and otherwise, with the resultant scar tissue, lost uvulas, desecrated, mutilated pillars, adhesions, left in the wake of needless, reckless, so-called tonsil surgery. Is this really progress? Considering the operations for appendicitis, for a moment, from all angles; the needless operations from improper diagnosis; the postoperative distress from adhesions, hernias, even intestinal obstruction, emboli; the mental distress because of failure to get relief; the refusal of some for operations later, for real indications, and even the occasional death, is it progress? We have no real statistics to answer this question. None of us doubt that many operations have been done without real indications, for motives surely not for the progress forward of the science of surgery. We are safe in suggesting that Cesarean section, for example, has been done many times for the benefit, not primarily of the woman and unborn babe. When we contemplate that there still exists the opportunity for women to escape the responsibility of motherhood, that criminal abortions still are done, mutilating operations performed to prevent conception, and these by men, who, in the past at least have not lost caste, may we not question that as a whole we are progressing forward?

However, the spirit of progress is in the air and the light of real advancement is beginning to dawn. The awakening of the indifferent attitude of the people is at hand and the one great influence, the one great factor that is shedding its purifying light into the dark recesses of the profession of surgery, that is beginning to clarify the situation and is making for true progress, is

\*Presented before the Seventieth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 11, 12, 13, 1921.

the work of hospital standardization. Results are even now manifest, as the fruit of the efforts of those actually engaged in pushing this great educational movement and the hearty cooperation of the hospitals themselves and the support of the medical profession. We may, I think, point out with assurance, with hope and with pride, that this one institution is making for real progress. It is so self-evident that the system of record keeping, the actual taking of careful histories and the routine laboratory work will frequently prevent errors, even by those who have in the past actually tried to do their best work without this routine system, or act as a check on hasty conclusions leading to needless operations. Again, the men grouped together in any hospital are individually benefited in many ways. It leads to better understanding, mutual helpfulness, the frank open discussion, the summary cards open to the staff for study and constructive criticism, will surely assist in stimulating for better effort and eliminating the work that is questionable in character.

And surely as important as this hospital standardization is to the medical profession, is the education of the laity, who are beginning to appreciate the real value of conscientious, scientific and well founded diagnoses. The laity is demanding a diagnosis first, instead of remedies. It seems that the general scheme of hospital standardization is worthy of the best support of all fair minded practitioners.

Another matter I wish to mention, and it is only in a meeting of medical men that I would think of discussing this subject, at least I would ignore it in my relations with the laity, and these remarks are actuated by reading the following in a weekly newspaper. This article has been widely disseminated by the newspapers of our state:

#### **Chiropractics Win Long Fight for Recognition**

Des Moines, February 26: The twenty-six year fight of chiropractics for recognition in Iowa ended today. With publication of the bill just passed by the legislature, the law legalizing the practice of chiropractic and giving practitioners the same rights and privileges as physicians and surgeons went into effect today. Since the discovery of the art of spinal adjustment by D. D. Palmer of Davenport, Iowa, in 1895, its practice has been bitterly fought by physicians and surgeons.

The fact that this sort of bill, which puts on an equal footing with physicians and surgeons the exponents of this fad, fancy and foolishness, illustrates that as politicians the medical fraternity is a failure. Perhaps it is indifference—it should

not be, when we consider that the state insists on seven years hard work for medical and surgical men before granting permission to practice, when our great state spends money to keep up the State University of Iowa, insists on examination by the state board before recognizing their right to practice, and then extends the same courtesy to a class that practically has no training without this same examination, we might question very seriously progress. Can we not insist on the abolishment of class legislation and have one standard of examination for all who aspire to treat and heal the sick? Can we not progress, politically at least, to the extent that our legislatures be made to cease spitting in the face of the very constitution of the United States by enacting laws that are absolutely class legislation?

As representing the rural community, I take the opportunity to mention the question of present day nursing service as it relates to rural surgery. The primary motive of this profession was that of service, at least the spirit of service permeated the founders of this great work so intimately correlated with the practice of medicine and surgery. Our recent experience is leading us, though unwillingly, to believe that some members of the nursing profession are becoming more or less commercialized. What the remedy is may be a question. That the service of trained nurses is sorely needed there is no doubt, also that the supply is inadequate. Is the entrance standard too high? Experience has shown us that some of our best nurses have come from the ranks of those who have in early life been denied the privilege of a high school education. We can not take time to discuss this nursing proposition at length, but I wish to make the statement that I believe a two year course, properly given, with better pay while in training, would help to relieve the really serious condition, that of the shortage of nursing service for real need in the rural community. The opportunity for special training for those who aspire to higher positions in the nursing service should, could and would be given to supply nurses for the work that relates to teaching, such as hospital superintendents, dieticians, school nurses, social welfare nurses, special surgical nurses, etc. It would be a real boon to the ordinary surgeon and practitioner of the rural community, as well as to people of only ordinary means to be able to secure nursing service from those who have taken only two years training. This would, at least in a measure, overcome the increasing demand and the decreasing supply of nursing service as well as the overcharging which now deprives many people of any sort of nursing



service and would eradicate some of the excuses for failure to answer calls, no matter how great the need.

I take this opportunity to say that alumnæ of the State University of Iowa, who attended the recent clinic there, are unanimous in the declaration that the manner of present day teaching is certainly a sign that the science of medicine and surgery is progressing. We were especially impressed with the spirit of devotion, the spirit of service to the highest ideals of medical and surgical science. We are proud of our State University Medical School and I am sure that as the alumnæ of other schools attend the clinics and demonstrations of present day methods of teaching that the great examples of progress and devotion are not confined to the State University of Iowa. Unquestionably much of the progress and advancement in the science of medicine and the spirit of devotion, self-sacrifice and the conscientious research and investigation is by the teachers and their assistants in these medical centers. They are all worthy of the support of a loyal, enthusiastic and wideawake alumnæ.

Within the memory of most of you present, our great State of Iowa was here and there dotted with swamps and foul morasses, overgrown with rank, poisonous weeds. Swamps, on whose slimy bottoms there crawled cold, hideous reptiles; and there the wild waterfowl came yearly to raise their broods. Civilization advanced, systems of drainage were instituted and the light of heaven continued to shine upon this veritable garden; and now in place of these swamps we find waving fields of golden grain, and where the poisonous reptiles crawled, now the bare feet of children patter amidst beautiful, perfumed flowers.

The light of scientific medicine for centuries has been shining into morasses where lurked ignorance, superstition; and upon the slimy ooze of the bottom there lurked that lowest form of human society, the commercialized quack. But the light of scientific medicine is still shining and we can begin to see the dark veil of ignorance lifting. Ignorance is giving way to knowledge, vague superstition to understanding, and even the quack, as he moves about in the slimy ooze of this foul morass is finding the watery cloak of immunity being slowly evaporated and beginning to reach the security of his erstwhile protected position. He is no longer quite so safe in preying upon the agony of mother love as she contemplates the suffering of her offspring afflicted with a painful, incurable malady. He is getting more and more uneasy as he filches the bank account of the hopeless paralytic, the hopeful,

doomed, though optimistic, victim of late tuberculosis. The time is coming when the concentration of the light of progress will drive him from his nefarious trade and practices. With a spirit of unselfish service and devotion, of scientific investigation and tireless energy as exemplified in the great results from the efforts of Pasteur, Koch and Lister, as advanced later by such men as J. Marion Sims, Moses Gunn, Bigelow, Morton and many others whose names come to our minds, including those of our own state—the able, progressive Peck, the smooth, scientific Middleton, Nicholas Senn, Christian Fenger—and the multitude of others, contemporaneous with these. Stimulated and inspired by such great teachers, devoting their energies with this spirit of true scientific investigation, actuated by a true spirit of service to humanity, are our present day teachers, the Rosenows, Murphys, Criles, Deavers, Mayos, Finneys, Frasers, and our own beloved Donald McCrae.

We have no fear of the future. We are proud of the accomplishments of the present, and in the face of all the failures and shortcomings of the past, with such questions as that of cancer still unanswered, we are all optimistic enough to believe that our surgical profession, from all points of view, from scientific achievement to the spirit of service to suffering humanity, is such that we may with faith and confidence declare, "We do progress."

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#### THE RELATION THAT EXISTS BETWEEN HYPERTENSION, MYOCARDITIS AND NEPHRITIS\*

HENRY A. CHRISTIAN, M.D., Boston

Analysis and synthesis are methods by which we seek to obtain knowledge of unknown substances, processes and conditions. In internal medicine we use analysis to subdivide and classify cases representing a general group and so try to obtain a more complete knowledge of the condition. As an example, we subdivide pulmonary tuberculosis into miliary tuberculosis, tuberculous pneumonia, tuberculosis with cavity formation, etc., and recognize that these different varieties have a different prognosis, should receive different therapeutic management, have different physical signs, etc. In such a method of study we emphasize differences and use differences as a basis of classification or grouping. By contrast in synthesis we dwell on similarities and by

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\*Presented at the Milwaukee Session Tri-State Medical Association, Iowa, Illinois and Michigan.

using similarities we bring together smaller groups into larger groups. To return to tuberculosis, we recognize that all forms have a common etiology, the tubercle bacillus, that the anatomical differences depend on the number of tubercle bacilli and how they make their entrance, on the tissue infected and the degree of resistance in the patient, that we are dealing with a single disease, tuberculosis, which in its relation to the general public is much the same whatever the type in the individual.

Both analysis and synthesis contribute to our advance in knowledge of disease. The method of analysis perhaps is more often used in medicine and as a result we discuss classifications of all sorts of diseases and conditions. By so doing we learn much, but on the whole we increase the complexity of medicine and sometimes we do this without advancing greatly our actual knowledge of the subject. On the other hand synthesis, when it is possible, tends to simplify our conceptions. Both processes undoubtedly need to be used in studying disease, analysis with its subdividing up to a certain point, then synthesis, putting together our knowledge into broader concepts.

Today I am going to discuss that group of patients who, broadly, we term cardio-renal from the viewpoint of synthesis, dwelling on similarities rather than differences, attempting to see what common ground there may be in patients who present themselves as suffering in the main from hypertension or from myocarditis or from nephritis. In doing this one naturally considers what relations there may exist between hypertension, myocarditis and nephritis.

The motto of your society is an equilateral triangle with the name of one of the states on each side of this triangle. Without knowing its real origin I assume that this motto means the union of the medical strengths or interests of these states, each state being of equal importance in the organization, but each dependent on or bound to the other two so as to gain strength and solidarity by the union. To express a somewhat similar relationship I will use your triangle and instead of Iowa, Illinois and Wisconsin, I will substitute hypertension, myocarditis and nephritis. This arrangement indicates that these terms have an individual independence like states but also an interdependence through which this triad forms an important expression of the general relationships of significant morbid processes in the human economy. It is chiefly about this latter aspect, interdependence, that I will speak.

If you will pass over in your mind recent pa-

tients in whom you have made the diagnosis hypertension, or myocarditis, or nephritis and recall the findings in different ones of them, you will recognize that sometimes there were abnormalities which seemed to justify the diagnosis of but one of this triad, at other times two or even three of them. That is, there were some cases in which you could demonstrate but a high blood-pressure without evidence of cardiac or renal damage, while there were other cases in which, without a high blood-pressure or abnormal renal lesion, the heart was enlarged and improperly functioned. In yet another group there were normal blood-pressure and a properly functioning heart muscle, but poor renal function. Much more commonly the findings indicative of one of these groups were combined with those of another or there was a combination of all three. Then, if you will think of the progression of events in any one of these cases, you will recall that in some at first there was hypertension, but later the heart enlarged, that somewhat later poor renal function appeared and, finally, a decompensated heart was combined with a picture of uremia. In other cases a combination of two but not of all three conditions appeared. The occurrence of these combinations suggests a close interdependence of these processes in their cause and their progression.

Let us first consider hypertension. The prevailing view at present is that hypertension is dependent upon changes in the small arteries, the arterioles, scattered throughout the body and that, while it is often combined with the condition in the larger arteries, which we term arteriosclerosis, it is not caused by such arteriosclerosis. Without question we find hypertension in patients in whom there is no demonstrable arteriosclerosis and arteriosclerosis of marked degree occurs with normal blood-pressure. Sir Clifford Allbutt early recognized this independence and considered arteriosclerosis a degenerative or decrescent process quite apart from hypertension, or, as he called it, hyperpiesis. It is well to bear in mind that, in a clinical sense, arteriosclerosis is usually used as a term to indicate that the larger arteries show thickening of their walls, tortuosity and calcification in varying combinations and that hypertension or hyperpiesis means a persisting high blood-pressure. It is incorrect to infer that, because there is arteriosclerosis in this clinical sense, the blood-pressure is high, and equally incorrect to think that hypertension is not present because the palpating finger detects no changes in the arterial wall. As a matter of fact, very often arteriosclerosis in this clinical sense and hyper-



tension coexist but the former does not cause the latter. Very often these mistakes are made in discussing patients with arterial disease.

Granting that the immediate cause of hypertension lies in the arterioles, i. e., is due to an increased peripheral resistance from narrowing of the peripheral vascular bed at the level of the arterioles, what changes, if any, will be found in the arteriole? Either spasm of the vessel wall or an organic change in the wall causing a narrowing of the lumen or interfering with the dilatation of the vessel will result in an increased blood-pressure if these changes are very general in the body. If there is spasm alone the microscope will reveal no change in the body tissues. If there is an organic lesion, the microscope will show thickening and degeneration of the wall of the arterioles. It is believed that in earlier stages of the process often there is only spasm while later there are organic changes; what you find under the microscope depends on this.

What is the cause of these changes in the arterioles? By many it is stated that nephritis is the cause of hypertension and that consequently finding a high blood-pressure justifies the diagnosis of nephritis even though there is no other evidence of renal disturbance. We now know that very often we find hypertension in patients in whom renal function, tested by any method, is practically normal and that in hypertensive cases autopsy in some instances shows only minimal lesions in the kidney. In other words, we have evidence that nephritis is not a constant cause of hypertension. Whether nephritis ever causes hypertension will be discussed later.

Another cause for hypertension, rather recently adduced, is that it results from a disturbed salt metabolism and can be satisfactorily treated by eliminating salt from the diet. Our studies at the Peter Bent Brigham Hospital have not supported this view. This is not to say that in some cases of hypertension we do not find poor salt elimination. This has been long recognized, but it is our belief, based on our own observations, that salt retention is dependent on a disturbed renal function and an accompaniment of some cases of hypertension rather than an important causative factor.

Infection has been adduced as an important cause of hypertension in the sense that it has lead to the vascular lesions. Antecedent infection rather than coincident infection is what is described. Hence it is not likely that infection would cause spasm but rather organic lesion of the wall of the arterioles. Evidence for this is, in the main, statistical and is subject to considerable

error; it is easy to find a history of infection of some sort in most adults; whether there are more infections or infections of a more severe or more chronic type in cases of hypertension is difficult to decide for any large group of cases. We do know that many infections cause vascular lesions demonstrable under the microscope and these very probably may lead to persisting vascular changes causing hypertension. Anyhow, there is a growing belief that infection plays a large part in causing hypertension. Curiously enough, however, syphilis which we know to produce some striking vascular lesions, such as aortitis and aneurysm and in whose lesions of all sorts periarteritis is prominent, seems to play but a small part in hypertension; the proportion of patients with hypertension who have positive Wassermann reactions is relatively very small and antisyphilitic treatment rarely benefits hypertension.

Some endocrine disturbances are associated with hypertension, but that such a cause is at all general seems very improbable. I might discuss other assigned causes in a similar way. What I want to emphasize, however, is that today we know of no one final cause of hypertension; a number of factors play a part and perhaps there are a variety of causes. Hypertension very likely is, in a sense, of the nature of a symptom and not a disease, an expression of a disturbance that, like fever, might have many causes. As to the mechanism, it seems pretty certain that it is caused by a disturbance in the small blood-vessels, arterioles and smaller, of the body.

Now let us turn to nephritis and consider it somewhat as we have hypertension. For nephritis we have better knowledge of the organic lesion than we have for hypertension for we find in practically every case some demonstrable lesion in the kidney. However, as in hypertension, the degree of functional disturbance often is quite out of proportion to the demonstrable organic lesion. Again, in nephritis the relative relation of vascular to epithelial lesion is not fully understood. There is a considerable body of evidence that, in a large group of nephritides, the vascular lesion is the primary and the most important disturbance, while the changes in the epithelial structures are secondary to the vascular lesions. This applies particularly to that large group of renal patients that we ordinarily speak of as having chronic interstitial nephritis. Moreover, there is a growing feeling that the eye changes, commonly spoken of as albuminuric retinitis, are in essential vascular lesions of local origin, bearing only an indirect relation to the renal lesion and having no relation to uremia. If

this is true, not only is this type of nephritis in large part a vascular lesion, but also it is one expression of a general process involving other vascular territories than those within the kidney.

I have already spoken of the possible relationship between hypertension and nephritis and stated that nephritis does not bear a constant causal relation to hypertension but that hypertension may be found without evidence of nephritis. Certain types of nephritis are not accompanied by high blood-pressure, while with other types we have hypertension. In some cases we have recorded observations of hypertension prior to evidences of nephritis and later see the picture of nephritis develop. In other cases we have no positive evidence of hypertension prior to the development of symptoms and signs of nephritis and in certain of our cases of acute nephritis we observe the blood-pressure to rise as the nephritis progresses. So I am inclined to think that at times high blood-pressure is caused by nephritis, but it is not possible to say how often this is true in chronic nephritis, and we do not know just how the hypertension is brought about. It is also true that the vascular lesions causing hypertension may in the kidney cause the clinical picture of nephritis, perhaps indirectly actually cause nephritis.

Disturbed salt metabolism is often present in nephritis, but that it is a direct cause does not seem very probable. On the other hand, almost all students of the renal problem believe that infection is a very important causative factor in nephritis. Here, as with hypertension, direct evidence is often lacking, but the frequent observation of an infection just prior to the development of an acute nephritis is very suggestive so far as acute nephritis is concerned. With nephritis, as with hypertension, syphilis appears to play only a very minor role.

It is recognized that certain of the endocrine disturbances effect renal function but there is little evidence that any such disturbances cause nephritis. You see, as with hypertension, nephritis perhaps has a variety of causes not all of which, by any means, have I attempted to discuss. What I wish to emphasize is that there is observational evidence that in some patients hypertension bears some, even though an indirect, causal relation to nephritis and that both in hypertension and in some types of nephritis a lesion of small blood-vessels is an important part of the causative mechanism of the processes.

If now we treat myocarditis from the same viewpoint, we find much in common with the conditions which I have just discussed for hyper-

tension and nephritis. Perhaps it is necessary at this juncture to define my use of the term myocarditis. I mean by myocarditis a disturbance in the heart muscle, which leads to cardiac insufficiency, a type of heart which is usually enlarged but in which the valves are structurally normal. There is no constant finding as to type of irregularity, though sooner or later in the majority auricular fibrillation develops; however, some cases never develop arrhythmia. Under the microscope the heart muscle may appear surprisingly normal and changes in the interstitial tissue may be very slight or even absent.

For the cases of myocarditis I think we know less in regard to the lesion than we do for either hypertension or nephritis, certainly far less than for nephritis. That the disturbance in the heart muscle is primarily referable to the small arteries is an attractive hypothesis, fitting many of the associated phenomena but of which unfortunately we have little positive evidence. Coronary sclerosis is often present but is very far from a constant finding.

The association of chronic myocarditis with hypertension is interesting. Very often we have the opportunity to observe a patient with a high blood-pressure whose heart so far as we can judge functions normally and we cannot demonstrate any real enlargement. A little later in the same patient we find the heart enlarged. Still later there is breathlessness and finally cardiac decompensation with all of the findings that lead us to make the diagnosis of chronic myocarditis. High blood-pressure has persisted throughout. What is its relationship to the myocarditis? It is simple to say continued work against abnormal pressure has lead to the cardiac disturbance, but is it so? Most observers are rather unwilling to say that a true work hypertrophy with subsequent decompensation of the heart can occur. It seems more probable that some common cause has lead to hypertension and to the cardiac lesion and that cardiac enlargement is but a phase in the progression of the lesion.

In contrast to such a patient we see patients with identical cardiac findings but with normal blood-pressure. Some observers intimate that here hypertension has antedated cardiac decompensation and cardiac decompensation, at the time the patient is first observed, has caused a previously high pressure to fall to normal. It seems to me that the evidence for such a belief is insufficient and that such a sequence is more improbable than probable. To my way of thinking just the same cardiac lesion may develop either with or without hypertension. However,



this is not to deny that there may not be a vascular lesion at the bottom of each type of myocardial lesion; to have hypertension the vascular lesion must be quite general and not merely localized in one or several organs. We can say that, if it is general, we have hypertension; if it is localized in the heart, we have chronic myocarditis; if it is both general and localized in the heart we have hypertension and chronic myocarditis.

The role of infection in causing myocarditis stands as unproven. There is considerable evidence in its favor but relatively little direct proof. Still we do observe a typical chronic myocarditis develop as a sequence of such an acute infection as pneumonia often enough to give support to the view that infection plays an important role. On an inferential basis, as for nephritis and hypertension, we are justified in the hypothesis that infection may be an important factor in causing changes in the heart muscle that result in that form of cardiac insufficiency which we term chronic myocarditis. As for hypertension and nephritis, syphilis seems to play a minor role; as in the other two conditions our findings at the Peter Bent Brigham Hospital of positive Wassermann reactions or other evidence of syphilis in these cases of chronic myocarditis are infrequent.

As to endocrine disturbances, we know that a continued hyperthyroidism often leads to a cardiac disturbance of the nature of chronic myocarditis; yet it seems improbable to me that it is the cause of any large proportion of cases of chronic myocarditis. Certainly in Boston we fail to find evidences of antecedent or coincident hyperthyroidism in these cases and similarly evidence of other endocrine disturbances are very infrequent.

I have attempted to show that, so far as we know, very similar causative factors are operative in the production of hypertension, nephritis and myocarditis even though we can but rarely say for a given case that the cause has been a definite one. Furthermore, we have either direct evidence, good inferential reasons or well supported hypothesis, for believing that in all three conditions disturbance in the small arteries constitute an important part of the lesion. All three conditions occur with far greatest frequency at middle life or later, though all may be observed occasionally in the young.

The similarities which I have brought out justify us in grouping hypertension, nephritis and myocarditis together. We are not justified in claiming that there is any constant sequence in these processes or that in any given case at any period of time all three will be present. In fact,

we have to recognize that we see patients with nephritis without hypertension and without myocarditis and myocarditis cases without hypertension and with only such renal disturbance as is the result of chronic passive congestion. These findings, however, do not preclude a common lesion with different manifestations dependent on what viscera are extensively involved. Also, they do not prove that in all three the same general processes, namely, vascular disturbances, are operative. I think we can state that, if a hypertension develops and persists, sooner or later we will be able to demonstrate changes in the larger vessels, i. e., arteriosclerosis in a clinical sense, that the heart will hypertrophy and become insufficient, i. e., chronic myocarditis will ensue and that renal insufficiency will appear, i. e., chronic nephritis will develop. In some cases this actual sequence will take place; in other cases the sequence will be different but the end stage the same. Finally, the progression may be stopped by death at almost any stage and so the end result in any given case may be hypertension with arteriosclerosis and little else or with these there may be chronic myocarditis but no real nephritis or chronic nephritis without any actual cardiac insufficiency. In a pathological sense there may be lesions very marked in arteries, heart and kidneys or much more marked in one than in the others.

I believe that there is much evidence for a very close relationship between what we clinically term hypertension, myocarditis and nephritis and that a better understanding of these processes is obtained by considering their resemblances rather than their differences whether we are studying their causes, their manifestations or their management. In other words, synthesis is more helpful at the present stage of our knowledge than analysis in considering hypertension, nephritis and myocarditis.

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#### LUMINAL IN THE TREATMENT OF EPILEPSY: PRELIMINARY REPORT\*

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M. NELSON VOLDENG, M.D., Woodward

First of all I think I owe you an apology for appearing before you at all at this time. My reason for not preparing a set paper is the fact that our experience with this new remedy is of too recent origin to warrant us in coming to any definite conclusions, and we want to avoid statements which might lead any of you to believe that the results have been other than what they really are.

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\*Presented before the Seventieth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 11, 12, 13, 1921.

To begin with we want it understood that any remedy that will cut short or reduce or eliminate convulsions, does not necessarily mean or should not lead anyone to the belief that the disease has been cured. However, the convulsion is a symptom, it is the most prominent symptom, and any patient who is suffering from the disease will be very grateful indeed provided you can eliminate the seizures, or even improve that particular condition.

Now, what I am a little afraid of as a result of the promiscuous use of luminal in the treatment of epilepsy, is this: That we will get into the habit of using the drug indiscriminately, as has been the case with bromids more particularly. Luminal should be administered with a great deal of care and only by persons who are willing to keep an accurate observation of the action of the drug, and the physician should be anxious that the patient reports to his office at regular and stated intervals. As it is now, a few physicians procure a large quantity of the drug for the patient and send him away rejoicing. Also in many cases the dose given is too large, to begin with at least. So I feel that we should be extremely cautious in the use of the drug, and maintain strict observation of the patient.

So far as dosage is concerned, it should be your object to give only sufficiently large dose to control the seizures. Ordinarily, it has been our experience that  $1\frac{1}{2}$  grain once a day will do this. If you are dealing with a case that has been taking large doses of the bromids, it is a little dangerous to withdraw the bromid abruptly. You should either withdraw the bromid slowly, or give an additional dose of the luminal, say one-half grain, in the morning, and the grain and one-half in the evening.

During the past thirty-five years I have used almost everything that has been recommended for epilepsy or the control of the seizures, and I want to say that in our experience luminal has done infinitely more than anything we have ever tried. But do not go away from here with the idea that we are curing epilepsy. In the first place I do not believe that we have used it long enough to warrant us in making any definite statements. We started the regular use of this drug last November. We have been using it consistently and regularly in 114 cases. During this time there have been three unavoidable interruptions lasting from a week to two weeks when we were unable to procure the drug.

The physical properties of the drug you probably are familiar with. It comes in  $1\frac{1}{2}$  grain tablets, or you can secure it in powder form. It

is colorless, slightly bitter, almost completely or totally insoluble in cold water, slightly soluble in warm water and in an alkaline solution; freely soluble in ether, alcohol, and chloroform.

Some observers have preferred the administration of this drug in hypodermic form, and if you conclude to give the drug that way you should procure the sodium luminal. This is freely soluble in water and should be made up in a 20 per cent solution, and from that solution the dose should be 3 grains—twice that of luminal. But only one hypodermic injection a day should be given unless you find that the seizures are not properly controlled and that you do not have the effects you think you ought to have, when you can give one-half of this dose in the morning.

Luminal was first used in 1912 by several German physicians for the purpose of replacing veronal. As a hypnotic it acts very much more efficiently than veronal. It was first used among the insane, especially in the disturbed and excited states. It quiets the disturbed case much better than anything we have tried. Dr. Dercum reports a remarkable cure in a very severe case of chorea accompanied by insanity, and those of you who have had experience with chorea of this nature will appreciate what it means to have something that appears to be efficient in the treatment of these cases. After the first injection of 3 grain of luminal sodium in this case, Dr. Dercum states that the movements subsided materially, the patient obtained some sleep, and after four injections four hours apart the patient was practically in a normal state.

Personally I have had some experience with the use of luminal in aggravated cases of neurasthenia. I now have in mind the case of a man of middle age who suffered from a very severe attack of what we ordinarily would term neurasthenia. After two months' treatment with luminal, nothing else, this patient tells me, and his appearance would indicate that he is telling the truth, that he is in better condition than he has been in fifteen years. He claims that he had suffered from neurasthenia for that length of time. So I feel that in this condition also luminal has a place.

Dr. Grinker of Chicago, in 1916, gave the first discussion on the treatment of epilepsy by luminal in this country. Dr. Dercum began using it in the disturbed and excited states one year later. He did not, however, use it in epilepsy until 1919.

The first improvement noticed is a decrease in the number of seizures. There is a definite change in the nature of the seizures, the convulsions being much milder and of shorter duration.



There is also a marked improvement in the disposition of the individual. Those who are familiar with the epileptic state realize that there are perhaps no patients with whom we come in contact more obstreperous, more quarrelsome, and more fault-finding and difficult to manage, than the epileptic. We have noticed a marked change in this respect. We have also noted a marked change in the number of injuries received during seizures.

Respiration, circulation, and temperature appear to be uninfluenced by the administration of luminal.

As yet no one has attempted to make any statement as to how this drug acts. But we know from actual experience that it favorably affects the epileptic and some other nervous conditions, and in this connection I want to cite an extramural case. A little over a year ago, before we were able to get the drug in sufficient quantity to use it regularly among our own people, a boy fourteen years of age was brought to us from the northwestern part of the state. This boy had had epilepsy since he was seven years old. At the time I saw him the seizures were averaging one a day. Some days he would have two or three, then he would go two or three days without having any. All I prescribed for this boy was three-quarters of a grain of luminal given at 5 o'clock in the evening. For two months the patient had an average of one convulsion a week, after which time the seizures ceased entirely. The boy is a junior in high school this year. Only a week ago I had a letter from his father stating that the boy is entirely well.

So far as the effects of luminal on the system are concerned, I do not think there is any danger in giving the drug indefinitely. The drug is not habit-forming, largely perhaps for the reason that its administration is not accompanied by either pleasurable or disagreeable sensations.

#### Discussion

**Dr. Frank A. Ely, Des Moines**—In attempting to estimate the relative value of the various remedial agents used in the treatment of epilepsy, we must first of all take into account the freakishness of the disease. I, too, have had an experience similar to that of Dr. Voldeng, in that I have used almost every measure that has been exploited as an agent with which to combat epilepsy, among them quite a few cases that I have treated with snake venom, thinking in one or two instances that I really had some good results. By way of illustrating the various tendencies of the disease, I recently had a man come into the office who up to the age of eighteen had epileptic seizures almost every day. At the age of eighteen they abruptly ceased without any particular

treatment of any kind, and he was fifty-four years old when I was permitted to see him. During all this time there had apparently been no ill-effects from his early condition, and no seizures had occurred. Therefore, bearing this in mind, we are much less apt to form a false estimate of any form of treatment. I could enumerate these instances at great length. I have had rather a modest experience with the treatment of epilepsy by means of luminal; nevertheless I wish to say that, as far as I am able to observe, it does what bromid will do, only in a very much better and more effective way. With regard to the dosage, I have had several individuals take the dosage into their own hands, some of them have taken as high as two  $1\frac{1}{2}$  grain tablets at a time twice a day. They spent most of their time sleeping. In one very bad case the patient started in that manner, his epileptic seizures immediately ceased and the old gentleman has been very much better ever since. But, of course, I cut his dosage down very materially. Now, my experience has been a little different from that of Dr. Voldeng, in this: I have not found that the drug does as well with the petit mal cases as it does with the very bad ones. In a number of instances in which the patient had been having from one to three seizures a day, the administration of  $1\frac{1}{2}$  grain at night and perhaps 1 grain in the morning has brought about cessation of the seizures. In one case it is now three or four months since the individual has had an attack at all. In the use of this agent you will be greatly disappointed in some cases, while in others you are going to feel that it is a marvel of therapeutic efficiency. With Dr. Voldeng I wish to emphasize the fact that the cessation of seizures does not constitute a cure. We are begging the question whenever we attempt to treat epilepsy, simply because we do not know the real etiology of the condition. I think it is the same thing as the grain of an oak tree; it is a physical stigma by which the brain is rendered excessively explosive, and I believe that the value of these remedies lies in the fact that they reduce the explosiveness of and increase the inhibition of the cerebral cortex. It is from this standpoint that we treat these cases. I wish also to emphasize the point that these people should be kept on the treatment continually, and over a long period of time after they have ceased to have any seizures. But above everything else, although you may have a splendid remedy here, do not forget the hygienic regimen on which the patient should be placed. Two of the most brilliant results I have had in the treatment of epilepsy occurred in boys who were having attacks at about the age of fourteen, and who were placed in an outdoor environment. In one case the father gave the boy a flock of sheep. He remained outdoors with this flock of sheep, also he had a string of traps in the winter and followed the traps all winter long. In other words, we adopted in that case an outdoor, non-exciting regimen and one which increased the boy's vitality and enhanced his resistance and inhibition. I believe that outdoor life with moderate

physical exercise the year round is going to do the most for these terribly afflicted individuals.

**Dr. Thomas Byrnes, Woodward**—Dr. Voldeng's long years of experience in the treatment of epilepsy entitles his version as authoritative, and I therefore am somewhat timid in venturing any remarks. Personally my experience with luminal is limited, but I am of the opinion that therapy based on anything short of etiological factors is but palliative and inadequate. It is not my intention to enter into detailed discussion of the etiology of this condition; suffice it to say that the brain cell functions through the direct force of stimuli, which by its insufficiency or by its excess may entail degeneration. An excess of stimuli may excite or repress according to its individual reaction. Marsh is of the opinion that epilepsy is an abnormal muscular reaction to strong mental states. It is an abnormal expression because the muscular activity does not gain the end for which the emotional state was generated. It is unnatural also because it is effort undirected. The epileptic, because of his peculiar makeup, cannot avoid the dangers of too great stress as the normal man meets it, but by an emotional drive which cannot readily be checked labors on to mental exhaustion in unconsciousness. This is not deep enough to involve the motor life centers of the brain, so we have a convulsion. To Bisgaard and Norvig do we owe the first well defined endogenous substance yet found in connection with a psychic seizure. In their research upon epileptics, they found some hours previous to a seizure a remarkable increase in the ammonia content of the urine, being equivalent to about a 1.7 per cent solution. Taking this as an index, they made blood examinations and happened upon the pressure rise. They attribute this condition to a deficiency in the parathyroids, associating it with chorea, tetany, and other psychoses. Thus it would seem this is a kind of anaphylactic shock or poisoning with albumin waste products, and while other toxins may be associated they are not able to bring on a seizure until the ammonia reaches a certain concentration in the blood. These investigators used autotransplantation very successfully, homotransplantation not so, perhaps due to some difference between the donor and recipient. At this time, through the good offices of Dr. Voldeng, I am attempting research therapy along that line, with the association and cooperation of Dr. Henry Harrower of Glendale, California. My personal experience with endocrine therapy has been marvelous, and I believe that for the epileptic there is something in sight. This condition is endocrine in origin, and I have seen brilliant results in this work and hope within another year to give some positive evidence along that line.

**Dr. John F. Herrick, Ottumwa**—The drug luminal I have been acquainted with for about six or eight years, through the report of Dr. Brill of New York to whom I sent a patient for a condition other than epilepsy. He suggested the use of luminal because of certain convulsive manifestations, and I have been

using the drug in a few cases since, possibly twelve to fifteen. It is presumptuous for me to discuss Dr. Voldeng's paper, and yet I would judge that my use of the drug would antedate the use of it by the majority of physicians in this part of the country. I will relate a few cases. A woman fifty-five years of age had been an epileptic all her life, the seizures were becoming very frequent, two or three a day, and the mentality and disposition were beginning to be affected, as related by Dr. Voldeng in certain cases. I had in mind the possibility that our friend Reed of Cincinnati might have had some truth in his doctrine. So, in addition to luminal, I put this patient on an alkaline cathartic mineral water, giving enough of this each morning to secure flushing of the bowel. The result was that with  $1\frac{1}{2}$  grain of luminal at night and a dose of mineral water in the morning, inside of a month this lifelong epilepsy was stayed and she went a year without an epileptic attack. She thought then that she was well, and as she lived at a distance from my office she took it upon herself to drop all treatment. But after a few months she had an attack. Since I had given her a prescription for the luminal she secured an additional supply. However, she did not get the beneficial result she had experienced in the first place. She wrote me and I advised her to continue taking the mineral water. She returned to mineral water and the luminal, with the result that she had no more attacks until the war came and she was unable to secure luminal. Prior to the war luminal was made only in Germany. When the war came our supply of luminal was cut off until at the close of the war an American manufacturer took over the patent and started to manufacture it. In the interval this patient had quite a little trouble. Now, however, she is absolutely free from seizures, her mentality is perfectly normal so far as her friends can see, and her disposition is as kind and lovely as anybody could wish. I have another case that is different. It is a convulsive condition, but I doubt whether it is epilepsy. A woman about fifty years of age began having convulsions at night, these convulsions lasting for twenty-four hours, and sometimes it was with the greatest difficulty that we would get her out of the convulsive and comatose state following the attack. General examination was negative; Wassermann was negative, and spinal puncture was negative. A year ago we put her on this treatment and she has had no convulsions since. The other cases that I have referred to are epilepsy pure and simple. They all yielded to treatment by luminal. I have used a dose of  $1\frac{1}{2}$  grain given at night except in a few cases in which we have given an extra dose for a time. At times one or two doses a week is sufficient. The sodium salt, as Dr. Voldeng has said, is only one-half the strength of luminal. During the war the supply of luminal was very low and we were compelled to use a sodium salt where previously we had used luminal straight. I had more difficulty in using the sodium salt than the luminal, and patients were glad to get luminal again. I have seen between



twelve and fifteen cases, in all of which the taking of luminal has enabled the patients to get away from bromism, and it really has been a wonderful thing. I do not think that any patients are cured, although one young girl considered herself so nearly cured—she had not had an attack for two years and had dropped the drug for one and one-half years—that she was married, but about six months after confinement, i. e., a year ago, she had a convulsion after more than two years of entire freedom without taking any drug. She took up the drug again. I believe that Dr. Voldeng has in hand the trying out of a most valuable and useful drug, and I am greatly pleased that he issued the caution he did because of the danger we may fall into—that of misuse of a powerful and I believe a most useful remedy.

**Dr. Walter E. Scott, Adel**—I would like to ask Dr. Voldeng to state whether or not the drug has been used for paralysis agitans, and if so, with what result?

**Dr. Voldeng**—In reply to Dr. Scott, will say, we have had no experience with luminal in the treatment of paralysis agitans. I did not intend to discuss the treatment of epilepsy in a general way. My subject was the use of luminal. I was very glad, however, that Dr. Ely called attention to the importance of general hygienic treatment. I am enthusiastic about the use of luminal. I believe it will prove to be one of the most useful agents we have, and for that reason I am particularly anxious that you should use it cautiously and observe carefully its action.

## CONSERVATIVE SURGERY OF THE FEMALE PELVIC ORGANS\*

A. G. SHELLITO, M.D., Independence

A conservative operation is one that saves a part or all of an organ that otherwise would be wholly removed by a radical operation. (Battay operation—1st Ovarotomy—1808—McDowell.)

Infection and the destructive process following an infection account for a large percentage of the pathology in the female pelvis requiring surgical interference. Tumors, benign and malignant, and ectopic gestation are other factors. Of infections that can be recognized clinically, other than tubercular, there are two, one due to gonococcus and the other to streptococcus.

Gonorrheal infection is by far the most frequent. It travels along the mucus membrane of the vagina and uterus to that of the tubes and may infect the ovaries and peritoneum. Gonorrheal infection does not travel through the uterine walls or infect the cellular tissue. When the pelvic organs are involved the most common location is the fallopian tube, resulting in a so-called

pyosalpinx. The initial symptoms are frequent and painful micturition, when a urethritis is present, with burning and irritation of the vagina followed by a profuse leucorrhea. Should the infection extend, the patient will have pain in one or both sides of the pelvis, with temperature and tenderness over the lower abdomen. If the initial infection is treated promptly and properly, the uterus and adnexa escape being infected in a large percentage of cases, as shown by Palmer Findley and others.

Streptococcic infection follows labor or miscarriage, but probably more often, abortion or uterine instrumentation, such as passing a probe or using a curette. The streptococcus does not follow the same route as the gonococcus, but infects the cellular tissue or parametrium as well as the uterine wall; or, you may have a general septicemia and no localized abscess. If abscess formation occurs it is lower in the pelvis and can be felt in one or the other cul-de-sac. The differential diagnosis is not always easy, particularly if you are unable to get a reliable and comprehensive history. I have seen puerperal women with a moderately high temperature, chills and a relaxed skin and abdominal tenderness, with a history elicited of gonorrheal infection ante dating their pregnancy. Their symptoms were due to an acute exacerbation of the old gonorrheal infection excited by labor.

As the different infections call for widely different treatment, if you would conserve the life and health of your patients as well as their pelvic organs, be certain if possible in all puerperal infections to obtain a correct and reliable history.

Following labor at term, miscarriage or abortion, many women will give no definite history of infection except that they did not fully recover from their confinement. In the absence of a history of gonorrheal infection, this class of patients with pelvic infection, will usually be classed under the head of streptococcic infection due to being infected during or following their confinement, miscarriage or abortion.

Clinical experience in the early history of pelvic surgery demonstrated that operations done during the acute symptoms of pelvic infections were nearly always fatal, while operations for the same trouble done after the subsidence of the acute symptoms showed a good percentage of recoveries. This fact, together with the laboratory findings, demonstrate that pus resulting from gonorrheal infection became sterile in a few weeks or months, at most, after onset of the trouble. Pus of streptococcic origin may become sterile, but only after a considerably longer lapse of time.

\*Read before the Austin Flint-Cedar Valley Medical Society, Fort Dodge, Iowa, November 5, 1921.

I believe it is a safe rule, now generally conceded by gynecologists, not to operate during the acute or active symptoms of pelvic infections, this rule being subject to but few exceptions. Rest in bed, restricted or regulated diet, attention to the excretions, and ice bag to lower abdomen, constitute the best treatment if the infection is gonorrheal. After the lapse of a few months if the patient is still not free from trouble and a pus tube can be felt, laparotomy can be done with a fairly large percentage of recoveries. If given long enough time these cases nearly all recover.

If the infection is of streptococcic origin with abscess formation, it will be found lower in the pelvis and should be drained through the vagina, or at most extra peritoneally. If the abdomen is opened and the abscess found high in the broad ligament, and you have reason to believe the infection is streptococcic, do not drain through the peritoneal cavity, as streptococcus pus becomes sterile only after a long period of time, if at all.

In the early days of gynecology radical surgery of the pelvic organs was in vogue. Not only were diseased organs removed, but often healthy ones as well. Owing to unsatisfactory results, radical surgery of the pelvic organs grew in disfavor and conservative operations were done.

The Battey, or radical, operation for removal of the ovaries demonstrated that ovulation was not the only function of the ovaries as their removal often caused serious nervous disturbance. Ovaries, or ovarian tissue should be saved not only for the purpose of ovulation but for the trophic influences exerted by ovarian function. Ovarian tissue that does not function is useless; hence the blood supply of all ovarian tissue must be conserved or its function and trophic influence is lost.

Operations undertaken upon women during the child-bearing period must always consider the possibilities of pregnancy in women desiring children. To become pregnant a woman requires at least a uterus, one ovary or a part of one ovary that functions, with an open fallopian tube, though it be but a stump of a tube, on the opposite side from the ovary. Also when doing conservative surgery on the pelvic organs of women not past the menopause, if impossible to save organs sufficient for pregnancy, if a part of the uterus and a functioning ovary can be saved, menstruation will continue and the patient's health is more liable to be recovered, as menstruation is a normal function in woman from puberty to the menopause—except during pregnancy and possibly lactation. (E. H. Ochsner—reprint—*Illinois Medical Journal*, May, 1919.)

When infection travels from the external genital organs through the uterus to the tubes and other pelvic viscera, the uterus itself does not as a rule escape entirely, and we find chronic endometritis and metritis with a persistent, though sometimes not constant, leucorrhea with pelvic pain, tenderness and dysmenorrhea.

In the November (1917) number of the *American Medical Association Journal*, Polak describes a modification of the Bell-Buettner operation in which he removes a tube or tubes, as conditions require, as well as a wedge-shaped piece of the body of the uterus, saving sufficient functioning ovary and uterine tissue so that the menstrual function is not arrested; at the same time removing all diseased organs. This operation is recommended when the organs are so extensively diseased as to prevent future pregnancy, but where sufficient ovarian and uterine tissue can be saved or conserved to still maintain the menstrual function.

In women prior to the menopause, small ovarian cysts can often be removed and a part of the ovary with good blood supply left. Fibroid tumors can be removed leaving most or a part of the uterus sufficient at least to preserve the menstrual function. Frequently a number of small subperitoneal fibroid tumors can be removed leaving the entire uterus. When removing a tubal pregnancy, a healthy stump can sometimes be saved. If operation is done for malignant disease, no effort should be made to conserve any involved organ.

One thousand cases operated on in Cook County Hospital for tubal infection have been studied by Woolston and White and reported in the surgical clinics of Chicago for December, 1919. Their conclusions are that conservative surgery is discouraging, as many of the patients return for further treatment; that gonorrheal infection practically always involves both tubes and uterus; that if a woman has survived an acute streptococcus infection and symptoms remain, delay operation as long as possible as latent organisms are aroused by operation and an apparently simple case may die of streptococcic peritonitis if operated on.

In conclusion, from a resume of the abundant literature from which this paper has been compiled, one must conclude that the avoidance of infection is of first importance. If a woman becomes infected with gonorrhea, we should always bear in mind that if not treated properly and promptly it may jeopardize not only her pelvic, or child-bearing organs, but her future health. Gonorrheal infection occurs in young women. Asep-



tic obstetric work is the best safeguard in preventing streptococcic infection. If unfortunate enough to have a puerperal infection, avoid all irrigations and douches except to external parts and do not curette. If labor has been difficult and the vagina or cervix is torn, apply iodine or other antiseptic to the erosion.

In infections of the pelvic organs do not operate until after the acute symptoms have subsided, if at all. If operation becomes necessary, remove all diseased organs or parts of organs leaving only healthy functioning tissue.

#### SUMMARY

1. Removal of small ovarian cysts, or parts of a diseased ovary, without destroying the ovary or its blood supply.

2. Removing tubal pregnancy and leaving a healthy stump.

3. Removing fibroid tumors that do not involve the entire uterus, leaving uterus entire or sufficient to preserve menstrual function.

4. In all pelvic operations to handle ovaries carefully.

5. Many, if not most, infections of the pelvic organs get well if time enough is given the patient. I have had patients married eighteen or twenty years when first child was born.

6. If surgery is required, remove all organs that are sufficiently diseased to jeopardize the patient's health.

Such, in my opinion, is conservative surgery of the female pelvic organs.

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#### 'COMBINED ANESTHESIA\*

CHARLES RYAN, M.D., F.A.C.S., Des Moines

In the acceptance of the term combined anesthesia we mean to express not only the administration of two or more compatible drugs which produce or supplement the production of surgical anesthesia or analgesia, but also to incorporate other important factors which when correlated may contribute in a large measure to a more satisfactory result to both patient and physician alike.

For obvious reasons we shall limit our discussion to certain methods of combined anesthesia, and to voice some observations culled from our experience from a clinical viewpoint during the last few years. That the ideal anesthesia has not yet been obtained is conceded by all. However, in the modern achievements of surgical procedure

and care, progress in the knowledge of anesthetic agents has kept pace with asepsis and aseptic methods, with the standardization of surgical technique and with greater precision in differential diagnosis.

Concerning the agents used in the production of general or inhalation anesthesia, the once popular chloroform, owing to the necessity of its careful administration, its high mortality rate, and its depressing after effects, is being rapidly renegated to the past.

Ether is the most popular and generally used agent at this time because of its being the safest anesthetic in the hands of the novice or occasional anesthetist, its ease of administration (being almost fool-proof) and its low mortality. Although attended by undesirable after effects.

Nitrous-oxid-oxygen, while not a new anesthetic, is rapidly gaining in favor by reason of its pleasant, rapid induction, its extremely low mortality when administered by an especially trained anesthetist, its after effects being comparatively nil, causing no tissue changes whatever, the drug being eliminated from the body in from fifteen minutes to one hour. The chief objections to its use are the difficulty in transportation, its expense, and the fact that it is a most dangerous anesthetic in the hands of one not skilled in its administration.

Regarding local and regional anesthesia, Carroll Allen<sup>1</sup> states "while the history of the use of local means of analgesia precedes that of the use of general anesthesia, yet the practical use of general anesthesia preceded by many years that of local (chloroform 1847, ether 1846, cocaine 1884) and its administration had reached a high degree of development before local anesthesia was discovered. Had this not been the case, but the position reversed and local anesthesia discovered first, general anesthesia might now be struggling to displace it from its coveted pedestal, and it is not to be doubted but that local anesthesia would have reached a much higher plane of development, for in all operations suited to its use, general anesthesia cannot compare with it in safety and comfort."

Our convictions concerning the use of local anesthesia are well expressed by Hertzler<sup>2</sup>; "Quite apart from the danger is the unpleasantness of inhalation narcosis. The fear of the anesthetic is not dependent upon ignorance of its safety. Everyone knows of medical men who submit to the inconvenience of certain diseases, such as hemorrhoids or hernias, rather than take a general anesthetic for their cure. I have been interested to note the regularity with which phy-

\*Presented before the Seventieth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 11, 12, 13, 1921.

sicians express a preference for local anesthesia when they themselves are forced to submit to operation, particularly if they have seen it successfully employed upon their patients. If medical men familiar with the safety of general anesthesia hesitate to accept its risk and unpleasantness, we cannot refuse to listen to the wishes of the layman when he too, seeks to avoid general anesthesia. Many patients seek the services of the charlatan for the treatment of such diseases as hemorrhoids and hernias, because a cure is promised them without the use of general anesthesia. If the general surgeons were more willing to consider the patient's viewpoint, fewer would seek incompetent treatment. If suitable treatment were offered him at home under local anesthesia the number straying away from the ethical practitioners would be much reduced. Problems of this sort demand a conference between patient and operator. The decision often will depend upon the patient's nervous equilibrium and the surgeon's skill in the use of local anesthetics, quite as much as upon the nature of the operation."

While no hard and fast rules can be laid down to guide one in the selection of the patient for local anesthesia in major operation, it has been our observation that certain nationalities are more susceptible to pain than are others; that the robust, vigorous, athletic type, as well as the highly sensitized nervous patient, or the inebriate or drug addict prove most difficult to handle in a satisfactory manner. Fortunately, old people and the class known as "bad surgical risks" have proven, in our experience, to be the best selection for local anesthesia. In some instances to allay the nervous apprehension, it is better to use a superficial general anesthetic in combination to attain the desired results.

Assuming that the operator is well grounded in surgical principles, success in local anesthesia depends upon the following factors; first of all, the technique must be learned in detail beginning with minor procedures; second, thorough knowledge of regional and relational anatomy is imperative; third, respect of tissues, gentle manipulation and minimizing trauma by sharp knife dissection; fourth, the operator should proceed with deliberation and without undue haste; fifth, the patient's confidence in the surgeon is very essential. It is our opinion that in all unsuccessful attempts the judgment and technique are faulty, not the method.

In the best possible application of combined anesthesia, it is assumed that the operator has primarily mastered local anesthesia.

While cocaine for centuries past was used for its analgesic effects when applied locally, or for performing minor operations, its practical application in surgery followed the work of the American Surgeons Hepburn, Hall, Halstead, J. Leonard Corning, and others, in 1884-85, and later George W. Crile, who in 1897 demonstrated its greater possibilities, laying the foundation for its almost unlimited use by performing the first painless amputation of the leg after direct injection of the sciatic and anterior crural nerves. This case was followed immediately by similar demonstrations in the clinic of Matas, Cushing, Halstead, Young and others. Local and regional anesthesia have progressively developed until the present time when many extensive major operations are being performed daily by this method without pain, distress or ill effects to the patient. The abolition of pain from the field of operation is effected either by;

First—"Paralyzing the peripheral nerve-endings or terminal organs of sensation, as in the papillary layer of the skin, or;

Second—By blocking or obstructing the path of all sensorial impressions in the nerve trunk including the sensory roots in the spinal cord that connects the field of operation with the sensorium." Allen.

The high toxicity of cocaine has largely disqualified it for injection methods. Many substitutes have been offered. Synthetic preparation known Novocaine makes the nearest approach to the ideal, its injection is painless, its toxicity being one-seventh that of cocaine, it produces no deleterious effects upon the tissue, does not interfere with healing, its solution is very stable and when combined with appropriate amounts of adrenalin proves most efficacious and can be used in weak solutions of from one-fourth to one-half per cent in almost unlimited quantities for the production of local analgesia.

With apothesine, quinine and urea, we have had a limited but very satisfactory experience. Anesthesine we have used successfully in relieving painful wounds.

The use of morphine or pantopan in combination with atropine or scopolamine as a preliminary hypodermic to either, general or local anesthesia really constitutes a combined anesthesia; the desirable effects of these narcotics being to reduce the amount of the anesthetic agent used, to inhibit salivary secretions during inhalation anesthesia, to minimize the emotional influences by blunting the sensibilities of the patient, and to combat the production of acidosis. Chloroform, ether, and nitrous-oxide produce an increased



acidity of the blood which is proportional to the depth of anesthesia; under ether the acidity is more gradually produced and is more slowly neutralized, while under nitrous-oxide the acidity is developed rapidly, and is quickly neutralized because of the absence of tissue changes.

For many years the psychological phase of anesthesia and surgery has proven a most interesting and profitable study. As a result of our improved methods of observation, we are convinced that (in addition to an intimate working knowledge of the drugs to be used) it is helpful for us to ascertain as thoroughly as possible, not only the physical but the mental status as well, and keeping this constantly in mind, during the preparation period (which if avoidable should never be hastened) we should endeavor to prepare the mind as well as the body, to safeguard against the occurrence of psychical as well as physical shock. We would emphasize that in the preparation and after care, no detail should be considered too minute to receive our closest attention, the small things counting here as elsewhere, may play an important role in the results obtained. From this point of view, it is at once apparent, that the protecting care of a patient who is to undergo surgical procedure begins when he is first seen by the physician or surgeon, and is promoted by a cordial welcome upon his admission to the hospital, where through the organization and training of assistants, nurses, internes, orderlies, and in fact everyone with whom he comes in contact, he is received in a kindly and courteous manner, his new environment made as cheerful and comfortable as possible, where manifestly it is the object of everyone to "play the patient's game" and surround him with every attention and service which will enhance his physical safety and mental poise. Such care and attention is highly important and should be maintained until recovery is complete.

In the majority of instances it is a first experience for the patient, and anticipating a most unpleasant experience (to say the least) his emotions of fear, worry, and anxiety as to his safety and survival is drawing heavily upon his reserve nervous energy. In reaction to the stimulation occasioned by his emotion, the latent nervous energy which he has stored up is being transformed into active energy, which, as a result, is driving his motor system abnormally fast, and the exhaustion which follows will be in direct ratio to the intensity and duration of the stimuli; this emotional reaction will be evidenced clinically by an increase in pulse rate, respiration and not uncommonly by a rise in temperature. (It would

be interesting in this connection to have a metabolism test made when the patient is first seen and before operation is advised, a second comparative test made immediately after admission to the hospital or just before the operation is begun, providing no sedative or narcotic drugs have been administered, we would expect an appreciable increase in the metabolism index in the majority of cases.)

In the prevention of shock by the application of the principal of Anoci-Association Crile and Lower<sup>3</sup> state; "The argument assumes that physical action and emotional activity are only expressions of motor stimulation; it assumes that in every active animal and in man are stores of energy which when released are expressed in motion or emotion; that when these stores of energy are consumed, fatigue or exhaustion is produced. The stored energy of the body may be discharged by physical injury of sensitive parts of the body, by emotional excitation or by physical exertion.

Assuming that no unfavorable effect is produced by the anesthetic and that there is no hemorrhage, the cells of the brain cannot be exhausted in the course of a surgical operation except by fear or by trauma or by both; fear may be excluded by narcotics and special management (applied psychology) until the patient is rendered unconscious by inhalation anesthesia; then, if in addition to inhalation anesthesia, the nerve paths between the brain and the field of operation are blocked with novocaine, the patient will be placed in the beneficent state of anoci-association and at the completion of the operation will be as free from shock as at the beginning. In so-called fair risks such precautions may not be necessary but in cases handicapped by infection, by anemia, by previous shock and by Graves disease, etc., anoci-association may become vitally important." And Sloan<sup>4</sup> has aptly said, "The surgeons aim in the conduct of a surgical case is the return of the patient to his position in society in the best physical condition in the shortest possible time, after subjecting him to the least danger and discomfort."

Our experience during several years past in a series of approximately two thousand operations performed by the method of combined anesthesia anoci-association) has been that our mortality and morbidity have been reduced one-half by following as closely as possible the method of Crile and Lower, the technique of which is:

First—Exalting the patient's ideas of safety and well-being by applied psychology, and by the care of trained attendants in pre and post-operative treatment.

Second—Withholding drastic purgatives, but if indicated a mild cathartic is given two nights before operation, a flushing of the bowel on the following morning and proctoclysis of sodium bicarbonate-glucose solution by Murphy drip method to follow for the balance of the day, and for twenty-four hours after operation.

Third—The administration of a hypnotic the night before operation to insure the patient a good night's sleep.

Fourth—A preliminary hypodermic of morphine, or pantopan with atrophine or scopolamine one hour before operation, after which the patient is not to be disturbed.

Fifth—The avoidance of unnecessary handling or commotion to and from the operating table.

Sixth—If the case is not to be by local anesthesia the administration of a light general anesthetic, preferably nitrous-oxide-oxygen with, if necessary, ether in amount indicated to the trained anesthetist.

Seventh—Thoroughly blocking the field of operation with novocaine and adrenalin in one-fourth to one-half per cent solution using quinine-urea in one-sixth per cent solution when indicated.

Eighth—Following the same technique as employed when using local anesthetic only.

Ninth—Conscientious observance of details in the after-care until the recovery is complete.

Carroll Allen in his splendid work states. "The survival or failure of any method advocated for practical daily use must rest entirely upon the clinical results obtained. The prime object of all surgery, as well as all medicine, is the relief of suffering and the prolongation of life; those measures which attain these ends with the least disturbance to the patient and the least suffering must ultimately prevail to the exclusion of all other harsher and less agreeable methods."

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1. Local Anesthesia, Carroll Allen.
2. Local Anesthesia, Hertzler.
3. Anoci-Association, Crile & Lower.
4. H. G. Sloan, Clinic Lakeside Hospital.

At the last regular meeting of the Physician's Club of Keokuk, Iowa, on motion of Dr. F. M. Fuller, it was decided to authorize the treasurer, Dr. C. A. Dimond, to make a subscription of twenty-five dollars to the permanent Foundation Fund of the Tri-State District Medical Society of Illinois, Iowa and Wisconsin. The subscription was made according to the treasurer Dr. C. A. Dimond, to "encourage the progress and endowment fund of this remarkable and unique society."

## THE EDUCATIONAL PHASE OF PUBLIC HEALTH\*

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This paper deals with the educational phase of public health, as experienced in serving under the Bureau of Venereal Disease Control, and does not touch upon medical or legal measures.

We have the venereal diseases; these arise from immorality; immorality arises from vulgar sex thinking, and vulgar sex thinking begins in early childhood. Here we see the vicious circle, and if we wish to make any permanent impression upon the venereal diseases we must begin with the young generation now arising.

The former policy of tabooing all reference to sex is vicious; such action gives the child the impression that all sex is so impure and so vulgar that even dear mother cannot mention it, and a salacious impression is indelibly printed upon the child's mind. It is not a question of whether a child shall receive knowledge of sex matters or not, it is only a question of what knowledge a child shall get; and not the actual knowledge so much as the attitude.

It is a fact that unsatisfied curiosity often drives a child to undesirable sources of information; for curiosity concerning life is a natural instinct and should arise in a child's mind unless he is feeble-minded.

Traveling over Iowa the past two years as State Lecturer for Women, experience has led me to decide that the majority of girls in this state receive no home instruction of any kind whatever on sex matters. It is doubtless the same with boys.

Schools do not supply this knowledge. Not one high school in which I have been, has a well-planned constructive method of giving sex education. Many high schools approached it by most excellent nurses who gave courses in Home Economics, but who all felt that they should not be expected to teach a subject so difficult as sex education without special training in the modus operandi; and in some schools where the nurse had attempted such a course the mothers objected. These mothers had not instructed their daughters and did not want anyone else to do so; and when interrogated regarding who should instruct their daughters airily replied that girls get this information by instinct. Yes, instinct and vulgar companions. One junior high school had

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splendid preparation for such a course to follow later; and it was a delight to hear the children in a seventh grade reciting on Gulick's "Next Generation," and to feel that they were getting that sense of personal responsibility toward their future children.

Since homes have failed to give this exceedingly important education to the child, schools will have to devise some plan that can be safely followed, so that the next generation will be better prepared to meet the problems of sex relations than have the adults of the present time.

Sex education in schools should never be given as a separate course, but made a part of other studies. In botany, biology, physiology, physical education, domestic science, even in literature, the laws of physiology and social ethics may be taught naturally; so that children attain a wholesome attitude toward sex.

But not every teacher can teach sex topics well; she must have aptitude and be specially trained, or she will do more harm than good if she attempts this special phase of class work. You would not expect the mathematics instructor to teach manual training, or the latin instructor to teach music; then why think that any teacher is capable of teaching this difficult subject?

No parent however poorly prepared or even if he cannot give scientific facts, can but have a good reaction when he truthfully answers his child's questions as each arises, never putting the child off on any pretext whatever. This is the part of the education of the child that pre-eminently belongs to the parents, but only too often they shrink from their duty and neglect it.

As observation is the natural way in which a child gains knowledge, we may be able to utilize this method through motion pictures; and this would eliminate the problem of specially trained teachers. The material for such motion pictures would have to be carefully chosen by a selected group of physicians, educators, psychologists and parents; so that the facts presented on the screen would be scientific and yet would result in the right reaction of the child to the knowledge presented, without undue shock or arousing purient curiosity. This part of the program cannot be hurried, but must be worked out without undue haste.

The educational phase in venereal disease control in Iowa was started in July, 1919, practically two years ago, and since that time has reached close to 165,000 girls and women in over 1000 lectures.

These lectures were given to all classes of women: high school girls, college women,

women's clubs, parent-teacher associations, women in industry and business. If occasion permitted, time was always given for questions and conferences following the lectures, when the girls might come singly or in groups and ask questions; and this was especially valuable in high schools and colleges. Many showings of the movie "The End of the Road" were made, likewise the movie "How Life Begins."

Special effort was made to work through the educators of the state. The State Superintendent of Public Instruction has cooperated splendidly, the county superintendents likewise, resulting in many lectures before teachers institutes. Superintendents of city schools almost unanimously turned over their schools to the speaker for lectures and conferences and the movies; and the same spirit of interest prevailed among colleges and universities, where hours for conferences were scheduled far in advance with various groups of girls, and invariably the request came for more lectures with more time allotted for conferences.

There is great demand for, and tremendous possibilities in this educational phase of public health, and the thinking men and women of Iowa are deeply interested in it, and this problem must be met in a wholesome and sane way.

#### Discussion

**Dr. Paul E. Gardner, New Hampton**—It is very difficult for any of us to discuss a paper of this kind, at least it is for me. I realize, and I think all of us do when we think of the sex proposition, that along educational lines is the only way we can ever accomplish anything. But, as the essayist said, it is a very difficult problem to handle, and one hardly knows where to begin or what to say. It is a good deal like the question that came up twenty-five years ago in the experience of those practicing in the country, when, to the suggestion that a trained nurse should be employed to care for the case, the answer was, "Oh, my! we can't afford it." It was a new thing. And it is the same way today in trying to send a patient to one of the smaller hospitals: "Oh, no!" People had the idea that every patient sent to the hospital would die. I know that was the condition in our little town when we first had a hospital—they thought every one who went to the hospital certainly had to die. The good work that Dr. Throckmorton has been doing cannot be measured in money, for no one can estimate what will be the results of the magnificent work that she has been doing over the State of Iowa. I have the pleasure of being on the committee on Health and Public Instruction, but Dr. Throckmorton does the work. Dr. Albert and I get a little glory from the work she has been doing, simply because we are on the committee. But we do not do much, I am sorry to

say. If all of us would give talks or lend our influence as Dr. Throckmorton has been doing, what a beautiful country this would be to live in, how much better humanity would be in the future. She is certainly doing a wonderful work.

**Dr. Frank M. Fuller, Keokuk**—I have a word to say in appreciation of Dr. Throckmorton's work and her address this morning. I think we all, even as medical men, appreciate the difficult position, and yet it should not be difficult. Last night we applauded to the echo the sentiment that of all the wonderful crops that are raised in Iowa, our boys and our girls are the primary products of the state. Those of us who have boys and girls growing up in our homes, realize the absolute fundamental truth of that statement. We come here and talk of our scientific problems, we go home and work along our specialized lines, and we think that that is what we are working for. And yet every one of us knows in our heart that our ambition, our hope, our life, is settled in that home where the child is growing up. We wonder what he is going to be, we wonder what she is going to be; if it is a boy we are looking forward not to his success in material things, but that he grows into a man—a man that can stand before all men, a man of honor, a man of truth, a man of position. Now, what does it mean? We are virile, we know what we are talking about, we know as medical men what this matter of sex means to people, and yet somehow we sort of shy away from it; we look at it from the venereal side, we look at it from the health side; we do not realize that the sex impulse, next to self-preservation, is the fundamental thing because it is behind the great foundation of human life, and that is reproduction. How is your boy getting at this? You are looking forward to your boys' and to your girls' future and what they are growing up for. We all have our children come to us with questions that they ask us, and we as medical men hardly know how to answer them. I know children in the adolescent period who have from six to seven years of age grown into a natural knowledge of how the corn filters down its pollen on to the silk and how it fertilizes itself and how it comes out into a reproductive grain. I have had children bring in butterflies that are in a very unique situation for a child to find a butterfly in, and they ask what it means; they find their pets—their rabbits, their guinea-pigs, etc.—reproducing. Do you suppose your child, of whose intelligence you are proud, is going to sleep as we are going to sleep? Their whole life is a question mark—they are asking about everything. My boy came to me when a little fellow and said: "I heard a boy say, 'If you don't stop that I'll knock hell out of you!' What did he mean?" I could hardly tell him what he meant. But they are asking questions of every kind. The Doctor suggests that in the schools, through the processes of biology, physiology, etc., these children can be taught the normal, natural things. I think that we can teach our children that they can talk about something in the home, that they cannot talk about outside. You

teach your children their natural attitude towards the normal functions of the body; they do not come into the parlor and talk about what has occurred after breakfast. And yet you know that you teach the children to come to father or mother and talk very frankly about the normal functions of the body as to what has happened to them, as to whether they are normal, regular, or performing the normal functions of the body as we know are necessary to health. I believe that naturally we reveal our personal experiences along these lines with considerable hesitancy, but I know that boys can talk in the home with their parents about some of the deeper underlying functions of the body, as normally as they can about some of the common, ordinary functions of daily life. But, because you do not expect your boy to go in among your guests and talk about the normal functions of the body, you can teach him that those things also he can talk to his father and mother about. The deep, fundamental things that he can talk to his father and mother about, are not the things he will go out and talk to his companions about any more than he would talk about the natural functions of the body. Therefore I think that, as medical men, looking at these things in the right way (and we can only look at them as we do, from a high plane, controlling our own impulses along normal lines)—we can as medical men instruct our families primarily, and also we can instruct intelligent parents, to whom we owe responsibility along such lines as this, in a commonsense, intelligent way. I appreciate Dr. Throckmorton's work.

**Dr. Throckmorton**—I am glad that Dr. Fuller spoke of self-preservation and race preservation. From the time of childhood, even before the adolescent period, these sex impulses come up, and if we did not have them what would become of the race? And if there were no love or sympathy in the world, where would art and literature be? Most of our songs are about love, our paintings give expression to love, the finest in literature have love as a basic theme, and love is one of the things that makes life worth living. And I am delighted that Dr. Fuller brought that point up. I am also pleased that he mentioned the fact that if parents will talk sex matters with their children, this will make a bond of confidence between them. I do not know the psychology of men, but I know that if a mother does not answer her child's questions on sex just as they come up, early, she loses the opportunity to establish this bond of confidence. The child may be only four or five years of age when she will ask, "Where did I come from?—where did you get me, Mother?" And if the mother does not answer the question truly, she is going to lose the bond of confidence. I presume it will be the same way with fathers and sons. I do not know the psychology of men folks. The question that is asked me more than any other, is this: "Doctor, will you not please tell me, in words of a, b, c, how I may explain to my child the beginnings of life?" And these questions also come: "How may I tell about motherhood to my little



girl?" "My boy is asking about fatherhood, and how am I going to answer this?" The mother says, "My daughter is twelve years old, and when this delicate subject comes up how will I tell her about the change that will come to her? Please tell me how to do it." And these are the questions that come up, rather than those about venereal diseases, of which the mothers are ignorant, and therefore do not know enough about to fear. I want to thank Dr. Gardner for all the nice things he said about my work in this field. But I feel that he should give a great deal of credit to the Iowa State Board of Health, which made possible this department of health and public instruction. There are five other women doctors who are doing this work in various states. Dr. Ulrich of Minneapolis was really the first one to start this work in the Mid-West. So the State of Iowa deserves the thanks, not myself, and, anyway, you remember that "flattery is the food of fools, but now and then we men of wit will condescend to take a bit." In conclusion, we must have confidence in what we are saying. We must believe in what we say or we will not get it "put over." Many people say to me,—Doctor, aren't you rather embarrassed to talk about these things in public and to groups of women?" I believe that if we approach the problem of sex education and venereal disease control shamefacedly or with a timid touch, we are going to do more harm than good. In this connection, I like to remember that remark from Emerson: "What you are in your heart, thunders so loudly I cannot hear what you say to the contrary."

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#### TUMORS INVOLVING THE ORAL CAVITY, UPPER RESPIRATORY PASSAGES, AND EARS, AND SOME OBSERVATIONS FOLLOWING THE USE OF RADIUM\*

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Of all the tumors involving the maxillæ the epulis is most frequent. Epulis is a name often used loosely as a topographical term to designate any tumor apparently arising from the gums or gingival margin. For this reason it would be well to discard it altogether. But there is a well recognized tumor for which I can find no other generally accepted name—the inflammatory or fibrous epulis. This is a growth half inflammatory and half neoplastic in character. It springs from the periosteum or the connective tissue underlying the mucosa at the gingival margin. As a general rule, it is preceded by an inflammatory reaction such as pyorrhea, a tooth broken below the margin of the gum or a deposit of tartar. Oc-

casionally a tumor of this nature arises deep in the socket of an apparently sound tooth. These tumors affect the upper and lower jaw with equal frequency. They most commonly appear in the region of canine, the cuspid and the incisor teeth. They are most frequent in young people, and much more frequent in women than in men. It is a slow growing tumor with no tendency to infiltrate the surrounding tissues or to spread by metastasis. It rarely ulcerates, is covered with a normal appearing mucosa, it is hard and firm to the touch, is adherent to the periosteum of the underlying bone. It is sharply demarcated from the surrounding tissues and there is no inflammatory or infiltrated border around it. If it is thoroughly removed it does not recur, but if partially removed it will return and in a more malignant form so that sooner or later if meddlesomely treated it may become a true fibro or small round cell sarcoma.

Histologically, the tumor is composed of a mass of fibrous tissue resembling scar tissue. In most instances there is an infiltration with wandering cells—lymphocytes, plasma cells and endothelial cells. Foreign body giant cells are sometimes present in small numbers.

Another type of relatively benign tumor which occurs quite frequently in the jaw is the giant cell epulis or giant cell sarcoma. This tumor also occurs in other portions of the body, especially at the ends of the long bones, in the capsule of the joints, in the bursa and tendon sheaths. However, its most frequent site is on the maxillæ. It may be quite destructive locally but has no tendency to metastasize. It occurs on the gingival margin or in the socket of an extracted tooth. As a usual thing it grows very slowly and does not infiltrate the surrounding tissue. It is softer and redder than the fibrous epulis, bleeds more easily and exhibits more tendency toward ulceration. It is more often found on the lower jaw than the upper and is more frequent in women than in men. It occurs more frequently in young people than in the aged. Occasionally this tumor may arise from the endosteum where growing centrally it absorbs the marrow and the bone and pushes out the periosteum, which being stimulated to renewed activity produces a wall of new bone. By this continuous method of production and absorption of bone the jaw may reach several times its original diameter before the tumor breaks through and invades the adjacent soft tissue. If a giant cell epulis is incompletely removed it returns in a more aggressive and destructive form. However, it is rarely necessary to do a resection of the jaw but suffices to sacrifice two or three

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teeth and make a wide incision leaving a narrow border of normal tissue about the tumor.

In addition to the giant cell sarcoma we often have sarcomas of the round cell, the spindle cell, mixed cell and melanotic type arising in the jaw. The mixed cell sarcomata which occur here are fibro-sarcomata, osteo-sarcomata, chondro-sarcomata and possibly mixo-sarcomata. The round cell and spindle cell growths are very malignant. Their course is short and unless successfully treated they always end in death. No matter how thoroughly they are removed their tendency is toward local recurrence. However, they exhibit little tendency to spread by metastasis to other portions of the body. The lymph glands of the neck are frequently swollen but this is due to the marked inflammatory reaction which usually attends these tumors. The mixed cell tumors are less malignant than the round or spindle cell sarcomata. They vary in this respect according to the relative amount of undifferentiated sarcomatous tissue which the tumor presents. Sarcomata of the more malignant types are much more common in the superior than in the inferior maxilla. Very frequently they arise in the antral wall or in the nasal or orbital portion of the superior maxilla and by direct extension reach the aural cavity, where their presence may be noticed for the first time. Sometimes the spindle and small round cell sarcomata have a long antecedent history of sinusitis, frequently with a complicating osteomyelitis. This fact has been especially noticeable in cases which we have seen at the S. U. I. Clinic.

The melano-sarcomata when found in the maxillæ exhibit the same characteristics which they display when found elsewhere. They have more of a tendency toward metastasis than any other tumor found in this region. Malessez reports nineteen cases of melano-sarcoma of the jaw, seventeen of which occurred in the upper jaw. Another interesting group of tumors found in the maxillæ and not elsewhere are the odontomata which arise in embryonic rests from the anlagen of the teeth. These new growths may be cystic or solid tumors or a combination of both.

Early in embryonic life there is formed the dental ridge which is produced by a piling up of epithelial tissue. After the formation of the ridge the mesoblastic tissue on either side grows more rapidly than that immediately below it so that it soon becomes a groove, and later a deeply invaginated plate of epithelial tissue. From this plate buds are thrown out and grow still farther down into the connective tissue which is soon to be converted into the bony tissue of the maxillæ.

The buds correspond in number to the teeth which are to be formed. First the buds for the milk teeth grow down and a little later these from which the permanent teeth are to be formed push off to one side. Immediately below each descending bud small areas of connective tissue take on special characteristics. They become very cellular and the nuclei of the cells assume the appearance of rapid growth. These specialized cells are the odontoblasts, the anlagen of the dentine of the teeth. They interrupt the farther descent of the buds which continuing to grow become invaginated and partially surround the odontoblasts. We have now the rudiments of the teeth—the odontoblasts capped by the enamel organs.

The dental plates and the dental buds have now performed their function and retrogression has already begun. The dental plate becomes cribriform and after a time is represented only by an isolated group of cells here and there. When the teeth are fully formed no trace of enamel organ, tooth buds or dental plate should be left. However, retrogression is often more or less incomplete and rests of epithelial cells are left behind in the fully developed jaw. The rests are spoken of as paradental debris.

An appreciation of these embryonic facts affords the only basis for an adequate explanation of the origin and development of dental tumors. The normal process of development and regression may be interrupted at any point and any of the remnants left are at times capable of new growth. All tumors arising from such rests may be classified as odontomata. These tumors exhibit great differences in their anatomical, histological and clinical aspects. They range from simple benign to solid, rapidly growing carcinomata and other malignant tumors which closely simulate sarcomata and endotheliomata.

The simplest tumors are the so-called root cysts which are formed about the apices of diseased teeth. The root of the tooth becomes infected and the irritation causes the epithelial cells which as remnants of the enamel organ are quite generally found at the apex of the teeth to take on new growth. As the cells multiply those at the center are shut off from their source of nutrition and degenerate, leaving at the center a cyst-like cavity which may be filled with serous fluid, mucus, fatty, caseous or inspissated material. The walls of the cavity are lined with epithelial cells which may be either columnar or squamous in type. It sometimes happens that the infective material reaches the cystic cavity and destroys in part or completely the epithelial lining; in which case we have a cavity lined with granulation tis-



sue or scar tissue and the contents may be purulent. Dental cysts are also found at the roots of sound teeth. Their formation is identical to that of root cysts just described excepting that the factor which stimulated the epithelial cells to a state of new growth is unknown as indeed it is in most neoplasms.

The simple dentigerous cyst which contains a single well formed tooth arises from the enamel organ which persisting forms a cyst-like cavity about the tooth and prevents its eruption. In such cases there is always a missing tooth. This mishap seldom occurs in conjunction with the milk teeth. Most often the wisdom tooth is the one involved. The canines and the molars are next in order of frequency, the incisor teeth being most rarely involved. Some of the dentigerous cysts contain more than one rudimentary tooth. As many as twenty-five to sixty may be found within a single cyst. These are not well formed teeth but merely irregular bits of enamel and dentine. They arise from rests which represent a much earlier embryonic stage than the fully developed enamel organ. Dentigerous cysts may also arise from the arrested development of aberrant teeth. One such case was that of a negro woman operated on in our clinic who had high in the ramus of the mandible near the bifurcation, a cystic cavity containing a well developed normal tooth. They have also been found in the hard palate, the zygomatic region and in the orbital portion of the superior maxilla.

The multilocular cysts also arise from the paradental debris. They merely represent a more complex and lawless growth. The cyst cavities may be smooth walled or show many papillary growths. The walls are of fibrous or cellular connective tissue. Calcified areas and areas of bone are frequently present. Dentine, enamel and rudimentary teeth are also occasionally seen. The cellularity of the fibrous tissue in certain areas may be so marked as to give the histological picture of a sarcoma or myxo-sarcoma. Ewing thinks it probable that by exaggeration of this process apparently pure sarcomata may arise. The cystic tumors have little or no tendency to spread by metastasis but the more lawless ones may at times be locally, very aggressive and small ramifying cysts may spread deep into the cancellous bone.

The solid odontomata have the same origin and many of the same characteristics as the cystic tumors. The only real difference being in their tendency to form cysts. The epithelial cells may take on an appearance very similar to that seen

in an epidermoid carcinoma. Pearl formation may be abundant. It does not seem strange that this should be true when it is remembered that they originally spring from the epidermoid epithelium. Many of the tumors show dense areas of columnar cells interspaced with areas of enamel and dentine. A common form is the plexiform odontoma made up of numerous twisting convoluted columns of small spindle cells. These tumors represent an uncontrolled effort on the part of the new growth to reproduce the same structure which we see in the tooth buds in normal embryonic development. (B. Fischer found a tumor having the structure of an odontoma in the tibia. He attributed it to the continued downward growth of a tooth bud.) The plexiform odontomata often contain numerous small cystic areas which give the growth an alveolar appearance and may lead to the diagnosis of an adenoma. It seems to me that this alveolar structure is most logically accounted for on the ground that it is an abortive effort on the part of the neoplasm to reproduce the enamel organ. Many odontomata have an abundant and very cellular stroma. We have noted in discussing the embryology of the teeth that as the bud pushes downward the mesoblastic tissue immediately below it becomes very cellular and takes on the characteristic appearance of actively growing tissue. This must be in response to some influence exercised by the epithelial cells and it seems quite plausible that this power to stimulate connective tissue to active growth may be latent in these cells and that it may be reassumed to an exaggerated degree in some of these lawless new growths. This theory explains the markedly sarcomatous appearance which the stroma of these tumors sometimes displays.

The odontomata are essentially tumors of youth and young adult life. Although in a few well authenticated cases they have occurred in old age. The simple cyst occurs more frequently in the inferior maxilla. The more complex solid tumors are more frequently in the superior maxillæ. The simple cysts are very slow growing and very benign although it is possible that meddlesome and inadequate attempts at their removal may cause them to return as a more destructive growth. The adamantinomata are very destructive locally but have little tendency to metastasize. Occasionally they become exceedingly malignant and metastasize freely. This is especially apt to occur following unsuccessful attempts at removal. Ewing reports a typical case of plexiform odontoma, which after five attempts of eradication had entirely lost its original epithelial character-

istics and closely resembled a perivascular sarcoma.

Carcinomata of the oral cavity arise from the mucous membrane of the cheek, the floor of the mouth, the gums, the palate and the tongue. From whatever point they originate they have not far to spread without involving the maxillæ. Carcinomata which arise in the antrum and lateral portions of the nasal wall mucosa also involve the superior maxillæ and in this way group themselves inseparably with the tumors of the oral cavity. Because of this relation of the superior maxillæ to the nasal mucosa carcinomata are much more frequent in the upper than in the lower jaw and they also represent a much greater variety of clinical and histological attributes.

Carcinomata more frequently involve the maxillæ than do sarcomata, their relative number being about three to two.

Carcinoma appears somewhat later in life than sarcoma. The periods of greatest incidence being the fourth, fifth and sixth decades. Cancers of the oral cavity are five or six times as common in men as in women. The relative number of cancers of the mouth as compared to cancers arising elsewhere in the body is high and their fatality is very great being variously estimated from 75 to 90 per cent.

The importance of chronic irritation as an etiological factor in carcinomata of the buccal cavity has been much under estimated, not only by the laity but by the medical profession as well. All chronic ulcers and fissures may act as a predisposing factor in the establishment of a malignant growth. Leukoplakia also is a very important factor in this respect. According to Fournier it is followed by carcinoma in 30 per cent of the cases but many authors hold all lesions under suspicion and there is no doubt but that the disease has a definite tendency to become malignant and should always be treated as a precancerous lesion. A diffuse papillomatosis of inflammatory origin is sometimes seen on the buccal and lingual mucosa and is a frequent precursor of cancer. The long continued irritation from the edge of a broken tooth or from pyorrhea seems in many instances to stimulate the epithelium to an increased activity which ends in malignancy. Chronic irritation from the use of tobacco also seems to be a predisposing cause.

Carcinomata of the cheek and inferior maxillæ metastasize to the sub-maxillary lymph nodes. As a rule metastasis from the inferior maxillæ is early, from the cheek late or not at all. When the cancer is in the superior maxillæ there is little tendency to metastasis. Ewing thinks that as the

lymph drainage from this part is into the deep glands along the internal maxillary artery and consequently difficult or impossible to palpate even though enlarged, metastasis is probably much more common than has been thought.

In carcinoma of the tongue and the floor of the mouth metastasis occurs earlier and more uniformly than from any other portion of the oral cavity. In all cases the metastasis is usually to the same side as that on which the lesion is situated but the lymphatics of both sides are sometimes involved and occasionally it happens that the opposite side is involved while the affected one remains clear.

The great majority of buccal cancers are of the simple acanthomatous type. The basal cell type is rare. Occasionally a tumor is found in which the cells and arrangement are such as to suggest that it arose from the ducts of a mucous gland. In the upper jaw we have the malignant odontomata which must be classified with the carcinomata and uncommon forms which may arise from the nasal mucosa. These are adenocarcinomata, columnar cell carcinomata and a rapidly growing very malignant neoplasm which because of the type of cell and arrangement strongly resembles a perivascular sarcoma and is perhaps frequently mistaken for it.

The neoplasms of the pharynx and tonsils constitute a most interesting group. I regret that there will not be time for me to go into them in any detail.

Benign papillomata are not uncommonly found on the soft palate, uvula, pillars of the fauces and on the surface of the tonsil. They may be sessile or pedunculated. They are grayish or red in color and vary in size from a millet seed to a hazel nut. They are composed of a core of fibro-vascular tissue and covered with fimbriæ of stratified epithelium.

Adenomata arising from the mucous glands occur in the palate, the uvula and the tonsils. They are firm, smooth growths usually pink or gray in color and probably can only be diagnosed with the microscope. In several of the cases which we have seen at the Iowa City Clinic they have occurred shortly following rather mutilating tonsillectomies.

Lipomata and angiomas may be found in the pharynx but they are extremely rare. Dermoid cysts and teratomata are perhaps as frequently found in this region as in any other but they are chiefly interesting curiosities because they are rarely found in those who live long after birth. Mixed tumors of the parotid may be found here. Pedunculated growths as large as marbles some-



times hang from the surface of the tonsil which on removal are found to consist of ordinary tonsillar tissue. The occlusion of the opening of a tonsillar crypt may produce a retention cyst. The contents of these cysts vary from serous fluid to a thick substance resembling sebaceous material. Recently Sir St. Clair Thompson has reported cases in which accumulations of calcareous material within a tonsillar crypt produced some inflammation and pain in the tonsil and on palpation give the characteristic hard, boardy feeling so characteristic of cancer. A probe passed into the mouth of the crypt easily revealed the true nature of the malady.

Sarcomata may arise in the tonsil or may start in the fauces, the palate or the posterior wall of the pharynx and spread to the tonsil. All histological types of sarcomata may be found. In 1912 Justus Mathews, then of Rochester, Minnesota, reported eleven cases. Of these, all but one were mixed, round and spindle cell sarcomata. One was a lympho-sarcoma. While these tumors are not so hard and rigid as carcinomata, they are usually firm but in some cases feel somewhat soft and cyst-like. There is as a rule little infiltration beyond the margin. Hence, a sarcoma may remain more or less encapsulated for some time while the growths increase very slowly or appear to recede. When it extends it is generally toward the angle of the jaw and extensive involvement of the lymph glands then appears in the neck. On the whole, pain, ulceration, induration of surrounding tissue and early glandular involvement are much more prominent features of carcinomata than sarcomata. Sarcomata of the tonsil may run a rapid course or may extend over years. This is particularly true of lympho-sarcomata. While some are rapidly fatal others are so benign that they should probably be called lymphomata rather than lympho-sarcomata. Wright and Smith report a case which began as a recurrence of a tonsil which had been removed for hypertrophy. Sections showed nothing to distinguish the first recurrence from ordinary tonsillar structures. With each recurrence the growth took on more and more the typical form of a malignant lymphosarcoma. L. W. Dean has also reported the case of a man whose tonsils were removed and promptly recurred. Following this large tumor-like masses were removed at varying intervals, not only from the fauces but from other portions of the pharyngeal lymph ring over a period of four years. The man finally died from pneumonia but in all this time the tumor did not become destructive in its growth. Some years after the man's death I looked over

the sections made from this tumor and found it to be composed of small cells which were in every respect similar to normal lymphocytes. There was no variation or irregularity in size of the cells, no mitotic figures and none of the usual signs of malignancy. There was, however, no attempt at normal lymph gland structure, no germinal centers, no sinuses, nothing but masses of lymphocytes and the smallest possible amount of stroma. However, from the tissue which was removed at the last operation I found a somewhat changed picture. There were areas in which the cells were large and irregular and many mitotic figures were found. Had the man lived he would no doubt have succumbed to the malignant growth.

Primary carcinoma of the pharynx and tonsils is of rather rare occurrence. This is partially true in regard to the tonsil. Wright and Smith quote statistics compiled from 30,000 cases of cancer in which cancer of the tonsil occurred twenty times. They think, however, that the actual ratio must be higher than this. Mathews reports eleven cases of cancer of the tonsil from among his patients and collected twenty-one from the literature.

Carcinomata arise from the base of the tongue, from the tonsils, from the posterior wall of the pharynx and the fossæ of Rosenmüller as somewhat wart-like papillomata which have a marked tendency to ulcerate. They are extremely invasive and are surrounded by a deep border of induration and inflammation. The edges of the ulcer are very hard and knobby. Metastasis through lymphatics is early and extremely prominent and is often to both sides of the neck. They usually run a very rapid course. Of the thirty-two cases in Mathews' report only three were known to be alive after three years and these had been treated by tonsillectomy and cautery.

The histological picture is that of an epidermoid carcinoma but the growth is rapid and differentiation of the cells so poor that they often resemble rapidly growing mixed cell sarcomata, especially in the metastasis to the lymph nodes.

Tumors of the nasopharynx, either malignant or benign, are exceedingly rare. Papillomata have been reported. Adenomata and cysts chiefly in connection with involuting adenoids may occur.

Nasopharyngeal polyps have their origin in the antrum of Highmore. They have a long stalk which grows out through an accessory ostium. The distal end spreads out into a large pear-shaped mass which hangs down into the nasopharynx. They have the same structure as nasal polyps. They do not represent new growths but

merely mucous membrane which through inflammatory changes has lost its elasticity and become permanently œdematous and sacculated. The cells become water-logged and resemble somewhat myxomatous tissue. Polyps often contain large mucous cysts which are formed as the result of obstruction in the ducts of the mucous glands. All the inflammatory changes to which the mucous membranes of the nasal cavity are subject may be observed in polyps. Because of their position the choanal polyps are particularly subjected to inflammatory changes and not infrequently become gangrenous. In some cases choanal polyps may originate in the sphenoidal sinuses or the posterior ethmoidal cells. Fibromata of the nasopharynx are reported by a number of authors. They must not be confused with fibrous tumors arising in the nose and passing backward into the pharynx. They originate from any part of the fibrous tissues of the nasopharynx—the basilar fibro-cartilage, the surface of the basi-sphenoid or the bodies of the upper cervical vertebræ. The commonest point of origin is probably the periosteum over the base of the sphenoid bone. They vary greatly in size. Their etiology is obscure. They are rare in females and occur in males from the age of ten to twenty-five years. They are benign in that they have no tendency to infiltrate or to spread by metastasis or to recur after removal. But they are clinically malignant in that they fill all the available space and then by pressure on adjacent structures cause atrophy and absorption of the bone and not only grow down into the pharynx but extend into the nose, the paranasal sinuses and even into the orbits and the cranial cavity. According to St. Clair Thompson the tumor is composed wholly of fibrous tissue, it is very cellular and not uncommonly many of the cells strongly resemble those found in spindle and round cell sarcoma. It is quite vascular. The blood-vessel walls are of embryonic tissue. If these tumors do not reach a size incompatible with life until the age of adolescence is past they have a tendency toward spontaneous disappearance.

Simple fibromata are sometimes found in the nasal cavity and arise from the ends of the turbinates. They are firm, irregular, nodular tumors which do not bleed easily and have little tendency to ulcerate. Microscopically, it presents the same characteristics as the ordinary types of fibromata. Neither clinically nor microscopically do they resemble the fibromata of the naso-pharynx just described.

Carcinomata may arise in polyps or mucosa of the ethmoids and sphenoids. Several cases have

been reported as having their primary origin in the mucosa of the turbinate. They are either squamous cell carcinomata or are composed of cuboidal cells which occasionally suggest an alveolar arrangement. Sarcomata also spring from the ethmoidal and sphenoidal region and occasionally from the septum of the nose. Malignant neoplasms of the ethmoidal and sphenoidal regions metastasize freely to the lymph glands of the neck. Sarcomata in this region, as a rule, are more destructive than carcinomata, produces more softening of the bone and of the two are the more frequent.

Hemangiomas occur on the nasal septum and turbinates. It must be remembered that granulation tissue in this region has a tendency to form many large blood-vessels and even cavernous sinuses so that many of the so-called hemangiomas found in the nose are really not true angiomas but inflammatory tissue which has a peculiar appearance. In the pharynx, naso-pharynx and nasal cavities inflammatory reactions more closely simulate neoplasms than in any other portion of the body. Very frequently a diagnosis can only be made with the aid of a microscope and review of the literature leads one to believe that even splendidly equipped pathologists make more mistakes in the diagnosis of tumors of this region than in any other. More and more it comes to be an accepted fact that the organ involved influences greatly the character of the new growth and that tumors of various organs or portions of the body should be studied as separate entities. There is a great need for more careful histological study of pathological processes of the nose and throat. At present it seems to be almost a virgin field.

The use of radium in the treatment of these neoplasms seems to offer the best chance of cure or relief but the danger of radium has probably been underestimated. In many cases it is better to first remove the tumor by surgical methods and then use the radium as a means of preventing recurrence. I would like to present several case histories which I think show the desirability to this procedure.

Mr. E., age sixty-eight years, presented himself at the clinic with a carcinoma on the lateral margin of the tongue as large as a good-sized hickory nut and was treated with radium. For some time the treatment seemed to be giving most satisfactory results. At the last treatment he received 600 mgn. hours of radium and went home to return in four weeks. On his return half of his tongue was enormously swollen and there was a large, indurated, ragged ulcer which bled easily. The patient was in great pain. While



it was appreciated that the radium burn complicated the picture of malignancy still it was found that the cancer was progressing and one-half of the tongue was removed. The entire piece was blocked and many sections were cut from each block but not a single cancer cell could be found. The cancer had apparently been entirely destroyed but the radium burn had so obscured the picture that it was impossible to make a correct judgment concerning the state of the cancerous growth.

Mr. McC., sixty years of age, had been receiving radium treatment in St. Louis for cancer of the tongue. The tongue was large and protruded from his mouth. Two large, foul ulcers were present. On palpation the tongue had knobby characteristics and some portions were boardy in consistency but it was impossible to judge how much of the pathological condition was due to the cancer and how much was due to the radium burn. No treatment was given him.

Mr. W., age fifty-seven years, came for treatment for cancer of the external ear. He had recently been treated with radium. The external ear was gone and around the external auditory meatus was a deep, irregular ulcer about 8 cm. in diameter. The bone was uncovered in some areas, and near the auditory meatus it had sloughed away so that it was obvious that the process had invaded the middle ear and the mastoid cells. The amount of secondary infection present was such that the patient's life was endangered from meningitis or infected lateral sinus or other complication. An extensive operation was done in which all the diseased tissue was removed. At the time of the operation the dura was found to be uncovered in the region of the squamous portion of the temporal bone over a region as large as a half dollar. The mastoid cells were diseased and the wall of the Eustachian tube was necrotic so that the intercarotid artery was exposed.

All the tissue removed was blocked into ten blocks and numerous sections cut from each block were examined for malignancy but no cancer cells could be found in any part of the tissue.

Histologically, the tissues from both these cases resembled each other in that both showed a marked cedema and myxomatous and hyaline degeneration of the tissue. There was also considerable round cell infiltration. In the tissue from the ear there was also much granulation tissue which was no doubt the result of the secondary infection.

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#### NEEDS OF ARMY MEDICAL DEPARTMENT

An effort will be started by the medical department of the army, headed by Surgeon-General Ireland, to induce congress to remedy the existing shortage of both officers and men, so that the prescribed functions of the Medical Corps may be carried on. This situation is due to the recent reduc-

tion in the army through legislation and the prevailing sliding scale basis of computing the size of the Medical Corps in ratio to the actual strength of the entire army. A computation submitted to congress of the needs of the medical department, irrespective of the present or further reduction in the army, and also to assure the efficient discharge of its duties and meet its obligations to its military mission, claims that the following personnel will be necessary as a minimum: medical officers, 1,425; dental officers, 295; veterinary officers, 300; administrative officers, 140; enlisted personnel, 13,000. The surgeon-general in this request for legislation also states that the Army Medical School and the Medical Field Service School are operating under a very serious handicap, although they are the most important agencies for the instruction of the medical department personnel of the regular army, national guard and organized reserve. He insists that the Carlisle school has barely sufficient men for the up-keep of the station and that few troops are available for demonstrative purposes. It is also asked that legislation be enacted to prevent the deterioration of the Army Nurses' Corps, and that the grade of student nurse be created so that these student nurses may be employed in army hospitals, and during their period of training be permitted to perform work which otherwise would have to be carried on by graduate nurses. Because of the attractive remuneration and other features enjoyed by graduate nurses in civil life, the medical department asserts, it is becoming more and more difficult to maintain the nurses' corps of the army. All of the legislation proposed by Surgeon-General Ireland has been approved by the war department and will be taken up by congress in its legislation for the army during the coming year.—Journal of A. M. A.

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#### NEW ORGANISM AKIN TO BOTULINUS

The existence, says the Public Health Service, in a recent report by Ida A. Bengtson has been demonstrated of an anaerobic organism producing a soluble toxin which affects animals in a manner similar to that of the botulism organism but which fails to be neutralized by polyvalent botulinus antitoxin. Study of the organism, as found in the larvæ of the green fly *Lucilia Cæsar* sent to the service, indicate that it differs markedly from the botulinus isolated in the United States, and possibly is more nearly related to the European type described by von Ermengem in 1912, though it differs from this in important respects. Tests on laboratory animals by inoculation and by feeding caused death in from five to seventy-one hours. The most striking pathological results was, as in botulism, the congestion of the blood-vessels of the brain and meninges. Efforts are being made to produce an antitoxin. The suggestion that the organism of the disease causes limberneck in chickens has not yet been demonstrated.

# The Journal of the Iowa State Medical Society

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## SOME DISSATISFACTION WITH NATIONAL HEALTH INSURANCE IN ENGLAND

In following the periodical press it is easily found that the feeling of unrest and dissatisfaction is not confined to business, industry, labor or the farmer, but extends to the medical profession as well; all seem to be influenced by the thought that each interest is not getting enough money out of the business, and with but little thought of service to the public or what is fair or right. In England before the passage of the Lloyd George bill, the Friendly Societies carried the risk and paid the doctor on a contract basis which was unsatisfactory to the doctors, and led to much poor service, and dissatisfaction to the public. To remedy this the government took over the function of the Friendly Societies, supervised the service, and paid much better fees. This angered the societies which had under the old regulations bought physicans' services at wholesale and retailed them to their members. Under the new regulations, the societies continued the administration of the government insurance but complained that they did not receive satisfactory amounts and accused the doctors of poor work. "The president of the Friendly Societies said that they were not getting value for the enormous sums paid to the medical profession. No one was satisfied unless it was the doctors with the present system." The doctors claim that too much money was paid for administration and not enough for medical services.

This has brought the whole question under discussion. No one appears to be satisfied. Each believing he does not get enough money as his share. The Lancet believes that a revision will be made and that the insurance will be advanced, not abolished.

The same contention goes on in America, differing only in the difference between English and American methods of practice. It is plain that whether in Europe or America, the medical profession must watch and guard its interests.

## PHYSICAL CENSUS OF THE MALE POPULATION

The British Government has issued an interesting volume on the physical condition of the men of England, Scotland and Wales as determined by examinations for war service. The results are not flattering. After setting forth the standards of acceptance for service, a large body of statistics are taken from different sections of the country with the view of ascertaining what influence environments and ways of living may have on physical development.

The examinations were carried out by medical officers of the regular forces, the special reserve and territorial forces and by civilian practitioners specially appointed for the purpose.

From these statistics the British Medical Journal expresses much anxiety for the future of British manhood, "As the result of nearly 2,500,000 examinations, less than 872,000 men were placed in grade 1—that is to say, only 36 per cent attained the full normal standard of health and strength and were judged capable of enduring physical exertion suitable to their age; 250,000 were judged to be totally and permanently unfit for any form of military service and were placed in grade 4." In addition, the British Medical Journal says, "There were twice as many lads (of eighteen years) totally and permanently unfit for any force of military service as there should have been. If such be the state of physique amongst our youths, what are we to assume as to the condition of older men who have had to undergo the full stress of industrial life."

The findings of the London boards were particularly bad and the east end of London was designated as the "Black List." These are comprised of Mile End, Whiteclaped, Stepney, London Docks, Bethnal Green and Bow. The occupations included, barbers, Turkish bath attendants, manicurists and complexion specialists.

In the northwestern region conditions were not much better; underweight was an important fac-



tor, out of 1000 recruits of eighteen years there were 451 (or 42 per cent) less than 112 pounds in weight. The west midland region, Yorkshire and east midland region did not differ materially: In the latter region, tuberculosis was found very prevalent among the Jews.

In Scotland and Wales, the physical condition of the men was much better because of the larger country contingent.

In England and Wales, the bad physical condition of the young men including sickness and underweight was found on an analysis of the figures to be influenced largely by the condition of industrial workers, as bad housing, poor food, long hours of work, bad sanitary surroundings and heavy work at an early age. It was believed that physical conditions of young men could be greatly improved by better living, better housing and shorter hours of work for boys and more recreation. All the areas in England were industrial, but there were enough country spots to show the difference between the workers in industries and mines and the agricultural population.

Notwithstanding the better physical condition of recruits from Scotland and Wales there was enough evidence presented by these statistics to cause Great Britain much anxiety for the future and to arouse public sentiment towards better conditions of labor and of living.

We are constantly reminded that under our form of government, acts of legislatures and the decision of the courts are apparently not friendly to the advancement of medicine, at least from our point of view. We are afflicted by a class of practitioners who have one thing in mind and that is money, unfortunately we have some of the same kind in our own ranks. In 1917, Illinois passed a medical bill which seemed fair to all qualified practitioners but tended to bar unqualified practitioners whose only object was to secure money from the ignorant. But when this law was tested in the courts on constitutional grounds, it was easily found that there was the fatal objection of "discrimination" which will probably be found in all legislation which attempts to fix an educational qualification.

As it appears to us, our chief effort should be to maintain as high a standard of education as is consistent with the interests of the profession and the public and wholly disregard the irresponsible imposters in medicine who have always preyed upon the people and always will irrespective of laws. The real doctors of medicine have nothing to fear in their efforts to render service, and to

secure legislation for the health and welfare of the people. We shall lose nothing and will gain much by forgetting these parasites.

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We are frequently reminded by Iowa newspapers of the greatness of Iowa, the intelligence of its people, its prosperity; its forward vision and of the many things that should make the state a desirable place to live in. Not so much is said of its roads, or its legislature, but as the legislators are elected by the people, the people are responsible for them, and it may fairly be assumed that the legislators reflect the intelligence of the people. Our neighbor, the Indiana State Medical Association Journal says something about us which is worth reading. Unfortunately it is too near the truth.

The report of the Committee on Public Policy and Legislation of the Iowa State Medical Society contains a commentary on the cheapness with which life and health in Iowa is held in the following:

"The advocates of better health laws have considered that human life is of more importance than the lives of farm animals, and asked the legislature for pure milk for the children, and the request was turned down, but, when it was demonstrated that tuberculosis in the herds was killing off the pigs which drank the same class of milk furnished the children, then the legislature had no hesitancy in making an appropriation of \$250,000 to clean up the tuberculosis on the farm, in order to save the life of the pigs; and the U. S. Government provided another \$250,000, making \$500,000 for the two-year period. A few days later, the same legislature hesitated to appropriate an increase of \$5,000 to the board of control, making a total of \$10,000, for an educational campaign against the ravages of tuberculosis in the human family.

"In the days of slavery in the South, the colored people were counted as chattels and worth real money. If slavery existed today, and it could be pointed out that the slaves were in danger of being wiped out,\* or their health and working ability was impaired by disease, it is a safe bet that legislators would appropriate enough money to protect the slaves to the fullest possible extent. It seems too bad that the average legislator cannot be made to understand that health in human beings is a monetary asset, not only to the individual himself but the community at large. Therefore, money spent to stamp out diseases in the human being is well spent, in fact public health and sanitation is an economic problem and should be divorced from all ideas of sentiment. The average legislator trembles with fear when he thinks of the criticism that will be heaped upon his luckless head if he fails to promote legislation that will save 500 hogs from death from hog cholera, but he never bats an eye, when he is told that some disease threatens to wipe out of existence

5000 human beings, and that a little work on his part may help to avert the disaster. Hogs represent real tangible dollars, but to the average legislator human beings have no monetary value. We are under the impression that most of the work done by our legislators concerning health laws is free from the economic argument. The thing to do is to put the matter on the basis of dollars and cents, for that is the only thing that appeals to the average legislator."

### PELLAGRA IN THE SOUTHERN STATES

Certain newspapers with small regard for the truth have made it appear that there exists a widespread fatal epidemic of pellagra over the southern states. What motive these papers could have in publishing such damaging reports it is difficult to understand. If these statements were true, it might be assumed that the motive was to warn people against visiting these infected regions. We have no less authority than Dr. Searle Harris, editor and secretary of the Southern Medical Association and Dr. Claude A. Thompson, editor of the Oklahoma State Medical Association who deny these newspaper statements absolutely and state that there are less than 10,000 cases of pellagra in a population of 35,000,000 people. It is to be regretted that the public press have so little regard for truth and fairness.

### MEDICINE AND POLITICS

Dr. C. S. Pettus in his oration on the History of Medicine, read before the Arkansas Medical Society, among other historical observations, notes the following early participation of politics in official medicine.

"One of the most disastrous impediments to modern day progression of scientific medicine is politics. The first noteworthy record of this curse recorded in America was in 1775, in which year John Morgan was appointed by congress director general and physician-in-chief of the American Army. On accepting his commission he insisted upon rigorous examinations for medical officers and upon subordinating the regimental surgeons to the hospital chiefs; but the enmity of his subaltern and the shiftiness of politicians led to his unjust dismissal by congress in 1777 and the appointment of Shippen in his place. Morgan made a public statement ably defending himself with all loyalty to the cause and his great chief, demanding at the same time a court of inquiry. He was so impressive in his statement that he was granted this request. After an investigation and two years of deliberation the court honorably acquitted him of all charges; but from this ordeal he was left poor and broken in spirit."—Journal of the Arkansas Medical Society, August, 1921.

### IOWA STATE UNIVERSITY NEWS NOTES

Don M. Griswold, M.D.

Dr. C. W. Chase has been making a thorough canvass of the state in the interests of the training school for nurses at the University Hospital. Dr. Chase is meeting many young women who are interested in the subject of nursing and giving them full information and details regarding nursing as a career.

Dr. and Mrs. Howard Beye are the proud parents of a baby girl. Dr. Beye is assistant professor of surgery in the college of medicine and is acting as head of the department during the absence of Dr. Rowan.

Dr. L. W. Dean, dean of the college of medicine, read a paper before the American College of Surgeons at Lincoln, Nebraska. The title of the paper was Focal Infections of the Nose, Naso-pharynx and Oral Pharynx in Infants and young Children."

Dr. Henry Albert, professor of bacteriology and pathology, has resigned. About a year ago, Dr. Albert's health became such that it necessitated his removing to southern California where he has remained since that time. It was expected that a year in southern California would completely restore his health, but he now writes asking to be relieved of his University duties, and will probably make his permanent home in the West.

A new building has been built beside the University Hospital to serve as the urological clinic. This building has facilities for twenty-four male and twenty-four female patients with separate clinical and hospital facilities. There are separate treatment rooms and all the modern appurtenances of a well equipped urological clinic. It is connected with the University Hospital by a bridge facilitating the passage from one building to the other. Patients can be entered at this clinic by the usual procedure through the Perkins law or by special arrangements under the venereal disease law.

The following nominations for internes at the University Hospital have been made for the ensuing year:

(a) Department, ophthalmology, oto-laryngology and oral surgery: H. F. Hosford, Burlington; Dean Lierle, Iowa City; W. A. McNichols, Osceola; V. K. Hart, University of Pennsylvania; F. P. Quinn, externe, Pomeroy. Internes in the department of ophthalmology, oto-laryngology and oral surgery are required to have had one year's hospital experience in some other department of the hospital before they are eligible to appointments in this service.

(b) Department of surgery: Lawrence A. Block, Davenport; John J. Collins, Williamsburg; Paul N. Mutchman, Bellevue; Harold G. King, Boise, Idaho.



(c) Department of theory and practice of medicine: Glen W. Adams, Iowa City; David V. Conwell, Iowa City; John C. Sharder, Iowa City; Ernest F. Wahl, Wellman.

(d) Department of gynecology and obstetrics: Glen N. Rotton, Essex; Frank G. Valiquette, Sioux City.

(e) Department of pediatrics: Moran Foster, Wellman; Oral Thorburn, Webster; Arnold Smythe, Scranton.

Internships are still open and nominations for appointments will be made soon in the following services: Department of orthopedics, department of genito-urinary surgery, department of psychiatry, department of dietetics, department of anesthetics.

Dr. James E. Russell, Jr., who is finishing his second year of postgraduate work at the Children's Hospital, has joined the Physicians' Clinic of North Central Iowa, at Fort Dodge. At this clinic Dr. Russell will have the advantage of a new well equipped hospital and will confine his practice to pediatrics.

Dr. C. P. Howard attended the fiftieth anniversary of the arrival of Dr. A. E. Crouse in Grundy Center.

The Mid-Winter Conference conducted by the American Medical Association in Chicago was attended by President W. A. Jessup of the State University and Dr. C. P. Howard, professor of theory and practice, Dr. J. T. McClintock, professor of physiology, and Dr. Don M. Griswold, professor of hygiene and preventive medicine. All these men were on the program and presented to the conference various phases of medical education, as it is being carried out in Iowa.

The laboratory for the State Board of Health reports having made examinations for rabies on one horse head, two cow heads, and twelve dog heads, during the past month. Attention is called to the fact that rabies is not more prevalent in the summer months than in the winter and the usual precautions should be taken to guard against rabies regardless of the time of year.

### HOSPITAL STANDARDIZATION FROM THE VIEWPOINT OF THE HOSPITAL SUPERINTENDENT

Modern hospital administration has become a specialized profession within the past twenty years. Hospital administration today is not only a science, but a business. Those of us who have been hospital administrators for years realize that we are only at the beginning. Our hospitals stand for two purposes: they teach and they heal. It is not possible in every community that every hospital be a teaching hospital, but each one must be a healing hospital. If we hospital administrators are going to take our

place in the community without a pretense, when we go out to financial men for aid, we must be in a position to show them the result of our work in black and white. We must prove by results that we are entitled to public confidence and support.

This procedure places a certain increase in expenditure on the hospital administrator. There was a time when we were quite content with a written report of an operation. But now we are not content with that. The majority of the reports are not legible. We must have a typewritten report. That means an extra stenographer and typewriter and extra equipment, and I can assure you that anything done to get 100 per cent of hospital standardization, as we have tried to do it, has meant increased expenditure to the hospital. But I can assure you, in addition to that, it has given us 500 per cent increase in results. A record for which we spent a thousand dollars a year was not worth 10 cents when five years went by, and we couldn't use it. Certainly the money we spent on records heretofore was absolutely useless. Now, we can get our records at any time and they are logical and contain every detail. We are considering putting in additional equipment and when the time comes that one of our surgeons seeks information we hope he may make use of it.

### Records—How Long Shall We Keep Them?

This brings up the question, "How long shall we keep our records?" That has bothered a great many of the administrators of our hospitals. You cannot admit seven or ten thousand patients a year and keep a full record of all of them and expect to be able to house such records with the quarters that are available.

If our records are to be of the use they are expected to be, we cannot turn the patient out of the hospital without a very beautifully kept history. We turn our patient adrift as cured without the further knowledge at some late date whether or not the time and money spent on the cure of the patient will be lost. That consequently brings up the follow-up system. It is almost impossible for us to know that a patient has had proper treatment unless we use the follow-up system. And to conduct a follow-up system properly costs a great deal of money. As a rule that does not matter to the surgeon and to the attending men of the hospital.

The more a hospital administrator understands the difficulties of his attending staff, the more willing will he be to provide the staff with material or equipment to meet the hospital standard or for any other purpose that might be necessary. For that reason hospital standardization has indirectly brought the attending staff and the hospital administration much closer together.

### Staff Meetings

I think it has been conclusively proved that staff meetings properly run can be of immense benefit to the patient—to the patient first, because that is

the ultimate object of our hospitals—and to the attending staff, second. How staff meetings are to be run is a question of opinion. One hospital superintendent says it is best to serve luncheon in conjunction with the meeting. When this is done fewer members leave the meeting for they hear things discussed with less loss of time. I have tried that plan myself and I find it has worked out wonderfully well.

If staff meetings are advantageous from the standpoint of our hospital administrators—and I am sure they are—and if staff meetings are a good thing for the attending staff and a success, why not let us have staff meetings for the rest of the hospital, for the matron of the training school, for the chief engineer, the housekeeper, the fireman? Why not have them meet and hear one another's troubles? They are all spokes of the same wheel, and I am convinced that the results of such meetings would be 100 per cent beneficial. There is no reason why the chief engineer, for instance, should not know something about what is going on in the hospital. If such meetings are held, you will find that you have a spirit of cooperation among the workers, they work together, not against one another—a condition we used to see so often.

#### Autopsies

Hospital administrators are anxious to have as many autopsies done in the hospital as possible. I think it is safe to say that the hospital administrator takes more personal interest in the securing of these autopsies in very many cases than the attending man.

Consent for postmortem examination can be secured, and I have been waiting for many a long day to have this opportunity to tell you just what we have been doing in the Montreal General Hospital. I am not doing it myself. I have nothing to do with it, but a member of my administrative staff has. Last year we secured permission for postmortem examination in 86 per cent of all deaths in the hospital, and this year to date we have secured permission in 87 per cent.

Hospital standardization brings to the administrator of the open hospital—I am not speaking on behalf of or against open hospitals—a controlling weapon over his attending staff. It does not necessarily need to be used as a weapon. But this much we do know that in open hospitals the work has not been of the same caliber as the work done in closed hospitals. The hospital administrator today in the open hospitals has in his hands with the aid of his committee of management a means, we will not call it a weapon, whereby he can come before his attending staff and tell them that they must meet the conditions contained in the minimum standard. He can say to them: "Yes, we will give you an open hospital, but in order to derive any benefit from this open hospital, you must meet our minimum standard."—Alfred K. Haywood, M. D., Montreal, Superintendent, Montreal General Hospital; Representing Canada for the American Hospital Association.

#### FIELD SECRETARY

Announcement was made that Dr. Olin West had been offered and had accepted the position of field secretary, American Medical Association. Dr. West is secretary of the Tennessee State Medical Association, and executive secretary of the Tennessee State Board of Health. It was understood that Dr. West would be able to so adjust his affairs in Tennessee that he could report for duty on February 15. Later, however, it was found that he could not conscientiously give up his responsibilities to his state association and to the state board of health before the middle of April, when he will report for permanent duty in Chicago.—*Journal of A. M. A.*, February 18, 1922.

#### ELECTION OF EDITORS OF SPECIAL JOURNALS PUBLISHED BY A. M. A.

The following editors were elected as members of the editorial boards of the several special journals.

Dr. W. T. Longcope, New York City, Archives of Internal Medicine.

Dr. William McKim Marriot, St. Louis, American Journal of Diseases of Children.

Dr. Hugh T. Patrick, Chicago, Archives of Neurology and Psychiatry.

Dr. M. B. Hartzell, Philadelphia, Archives of Dermatology and Syphilology.

Dr. Evarts Graham, St. Louis, Archives of Surgery.

Dr. Reid Hunt, Boston; Dr. W. W. Palmer, New York City, and Prof. Julius Steiglit, Chicago, were reelected members of the Council on Pharmacy and Chemistry. Dr. George W. Hoover, Bureau of Chemistry, department of agriculture, Chicago, was elected to fill the vacancy created by the resignation of Dr. C. L. Alsberg.

Upon nomination of the several councils, Drs. N. P. Colwell and Frederick R. Green were reelected, respectively, secretary of the Council on Medical Education and Hospitals, and secretary of the Council on Health and Public Instruction.—*Journal of A. M. A.*, February 18, 1922.

Dr. Harlow Brooks in The Journal of Laboratory and Clinical Medicine, describes a method employed by Dr. David Dennis of Erie, Pennsylvania, to determine early arterial disease, which is a matter of considerable importance.

Study of the vessels is accomplished by the use of two very simple and easily manipulated instruments, which are usually in the pocket of the average practitioner. The ordinary pocket electric flashlight of which the most convenient for this purpose is the "fountain pen" type is used for illumination. The patient is directed to turn his eyes either the one side or the other, and the light held at a distance of about three to four c.m. is directed obliquely on to the ocular conjunctiva. Study of the vessels is then made through an ordinary ophthalmologist's



loupe, which is the most adaptable to the purpose, though other lenses are also fairly satisfactory. The loupe is held at the proper focal distance and for most satisfactory study the eye of observer is brought close to the lens, just as in the use of the microscope. The vessels under study in the various levels of the membrane are brought sharply into focus by moving the lens to and fro and for the purpose of steadying it the fingers of the lens hand may be rested on the orbital arch of the patient. The study may be made in the diffuse light of the examining rooms or even more satisfactorily in the dark room.

The great advantage to the clinician in the method is that a sufficient technical skill may be acquired with a few days' practice. It demands no special instruments and less time is required for the intimate study of the minute circulatory changes in the cerebral vessels than is necessary for a reasonably careful palpation of the radial, brachial or temporal arteries.

#### QUESTION OF DAMAGES INVOLVED IN FAILURE TO USE X-RAY IN FRACTURE OF FEMUR

(From the British Courts)

Mr. R. C. Elmslie, orthopedic surgeon to St. Bartholomew's Hospital, who operated on the patient, calls attention to the great medicolegal importance of the case. The result of the trial largely depended on the question whether refracture had occurred. He was asked whether he had found evidence of refracture. He replied that he had not, but he pointed out that the interval of eighteen days between the giving way of the limb and the operation was sufficient for signs of refracture to have disappeared. Apart from this, both judge and jury seem to have ignored the possibility of callus bending, a common incident in fracture of the femur. Mr. Elmslie regards as important lessons to be learned from this case: Every case of fracture should be treated as a possible medicolegal one. Careful notes should be made at the time. If a roentgenogram is not taken, the reason should be stated in writing. Physicians should not commit themselves to statements as to the nature of the injury without roentgen-ray evidence. Apart from this, the medical profession must feel considerable perturbation at a legal decision which appears to place on them responsibility for the result of their treatment, apart from their acknowledged responsibility to use recognized methods, for the mere result that the treatment was unsuccessful was accepted as a sufficient cause for action. The loss in damages and costs sustained by the physician amounted to more than \$8000. The view widely taken in the profession is that the verdict was a miscarriage of justice. A subscription list has been opened to reimburse the physician. The movement is supported by leading surgeons including Sir Robert Jones, Sir John Lynn-Thomas, Sir

Hamilton Ballance, Mr. G. E. Gask and Mr. R. C. Elmslie.—*Journal A. M. A.*, December 31, 1921.

#### LABORATORY WORKERS CONTRACT TULARAEMIA

All six of the laboratory workers of the U. S. Public Health Service who have been studying tularaemia, a disabling sickness of man which has been known, particularly in Utah, for the last five years, have contracted the disease, two of them being infected in the laboratory in Utah and the other four in the hygienic laboratory in Washington. Such a record of morbidity among investigators of a disease is probably unique in the history of experimental medicine.

Two of these workers are physicians; one is a highly trained scientist; and the others are experienced laboratory assistants. One of them contracted the disease twice, once in the laboratory in Utah and again, two years and five months later, in the laboratory in Washington.

In these workers the disease began with a high fever, lasting about three weeks, and was followed by two months of convalescence. The disease has few fatalities, its chief interest arising from the long period of illness which it causes in mid-summer, when the farmers of Utah are busily engaged in cutting alfalfa and plowing sugar beets.

The studies into the cause and transmission of the disease show it to be due to a germ, bacterium *tularensis*, which is conveyed by six different insects: the blood-sucking fly, *chrysops distalis*; the stable fly, *stomox calcitrans*; the bedbug, *cimex lectularius*; the squirrel flea, *ceratophyllus acutus*; the rabbit louse, *haemodipus ventricosus*; and the mouse louse, *polyplax serratus*. Only the first four of these are known to bite man. It appears possible that the germ may also enter through unbroken skin; for instance, that of the hands.

#### THE RETREAT

On account of the scarcity of money in Iowa at the present time the cost of treatment at "The Retreat," Des Moines, for the first month has been reduced from \$200 to \$150. We are treating patients more successfully than ever before. It is still a clearing house in which to study and to diagnosticate cases. This is a place to cure acute and promising cases. The facilities for classification are good, and the equipment is excellent. The employes are suitable, and deeply interested in this kind of work. They co-operate in various ways to entertain, to encourage, and to strengthen the patients. A united endeavor is made to restore patients to a normal condition as speedily as possible.

Fraternally yours,  
Gershom H. Hill.

## THE TREATMENT OF CARBON MONOXIDE POISONING

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Carbon monoxide poisoning is one of the most widely distributed and most frequent of industrial accidents, says the U. S. Public Health Service. The gas is without color, odor, or taste. It is an ever-present danger about blast and coke furnaces and foundries. It may be found in a building having a leaky furnace or chimney or a gas stove without flue connection, such as a tenement, tailor shop, or boarding house. The exhaust gases of gasoline automobiles contain from 4 to 12 per cent of carbon monoxide, and in closed garages men are not infrequently found dead beside a running motor. A similar danger may arise from gasoline engines in launches. The gas is formed also in stoke-rooms, in gun turrets on battleships, in petroleum refineries, and in the Leblanc soda process in cement and brick plants. In underground work it may appear as the result of shot firing, mine explosions, or mine fires, or in tunnels from automobile exhausts or from coal or oil burning locomotives.

Carbon monoxide exerts its extremely dangerous action on the body by displacing oxygen from its combination with hemoglobin, the coloring matter of the blood which normally absorbs oxygen from the air in the lungs and delivers it to the different tissues of the body.

Oxygen will replace carbon monoxide in combination with hemoglobin whenever the proportion of oxygen in the lungs is overwhelmingly greater. Therefore:

1. Administer oxygen as quickly as possible, and in as pure form as is obtainable, preferably from a cylinder of oxygen through an inhaler mask.
  2. Remove patient from atmosphere containing carbon monoxide.
  3. If breathing is feeble, at once start artificial respiration by the prone posture method.
  4. Keep the victim flat, quiet, and warm.
  5. Afterwards give plenty of rest.
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## MEDICAL NEWS NOTES

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Action to remedy conditions of health in Des Moines, revealed by F. J. Alber, county registrar of vital statistics at the first meeting of the city health council, will be the first step of the newly formed council.

Meeting Saturday, March 18, in the office of Dr. H. L. Saylor, city health director, the council took definite action to bring these conditions before the attention of the medical profession and the public.

Deaths in Des Moines in the past eight months have numbered 1,018, Alber reported. Particular attention was called to the fact that ninety-eight, or nearly 10 per cent of these were still births. Seventy babies died before reaching the age of one month, and 109, exclusive of still births, before reaching one year.

Information in regard to causes of this high infant death rate investigated by Dr. Wilbur Conkling, Dr. Rodney Fagan and F. J. Alber, will be highly educational to the people of Des Moines.

The city health council, upon recommendation of the secretary of the state department of health, appointed as a special committee on public health education Dr. Rodney Fagan, secretary of the state board of health; P. B. Sherriff, chairman of the Polk County Hospital Board, and Miss Adah Hershey, superintendent of the Public Health Nursing Association.

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The Medical Association of Cherokee County has agreed to attend to all the medical and surgical needs of the poor of the county until January 1, 1923, and to protect the county agents against any claim for damages that may be made by any dissatisfied members for the sum of \$3,500. Any regular practitioner, whether a member of the association or not, is privileged to sign the agreement. Sick persons will be allowed to call the physician of their choice. In the case of an epidemic in any part of the county the entire medical staff is mobilized to control the spread of the disease. The arrangement will provide the best surgical and medical talent of the county for the poor and will open for their use the equipment of the Sioux Valley Hospital at Cherokee. At the close of the year, the \$3,500 will be distributed among the physicians in proportion to the work they have done.

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People who have seen and visited Dr. William Mayo's houseboat, the Minnesota, which often laid over in Rock Island on trips up and down the river, will be interested in the announcement that Dr. Mayo is having built at an up-river boatyards a new palatial houseboat, which will be larger, better and more beautiful. The new craft of the famous Minnesota doctor will be the most elaborate and most luxurious boat to travel on the river. The Mayo home is at Rochester, Minnesota. The new boat will probably carry the same name as the old one.

The boat will be 123 feet in length, will have a 24-foot beam, and will draw thirty inches of water. The light draft of the boat will enable it to operate in shallow waters. Twin eight cylinder marine gas engines will give it the speed of the average river steamer.

The boat will be ready for launching about May 1, with all of the latest devices for heating, lighting, plumbing and cooking installed and ready for use. Accommodations for carrying automobiles will be had on the boat and will be made for the quick loading and unloading of the machines. The boat will probably cruise to all of the important midwestern racing regattas and cruising pageants during the season 1922.—Davenport Times.



A new suit, after the old was dismissed, was filed by Dr. J. W. Rowntree against the Automobile Insurance Company, Hartford, Connecticut, on policy to recover \$6,000 insurance on radium owned by the Doctor, which mysteriously disappeared while being used to treat a patient October 25, 1921.

The petition states that plaintiff understands the defendant is resisting payment on the following paragraph in the policy: "No claim to attach hereto for loss while any radium insured hereunder is used on or about patients unless, at the time of loss, they are being treated under the exclusive care of a registered nurse, hospital nurse, a medical doctor or his assistant."

It is explained that at the time the radium disappeared it was being used on a patient recommended by a regular graduate physician for treatment by plaintiff, and that the case was in general charge of the head nurse on the floor of the hospital where the patient was being cared for. The radium was to remain on the patient for eight hours and the plaintiff says he told the nurse to notify him at the end of that time. Before the eight hours had elapsed, however, the nurse telephoned that the radium could not be found.

The Dubuque County Medical Society and the County Board of Supervisors have entered into an agreement whereby the medical men of Dubuque county agree to render medical aid to the indigent poor of Dubuque county for a year at the stipulated price of \$3,250.

The doctors are agreed to each serve the county for a period of ten days—during which times they attend all persons who are county charges free to the individual. This service only applies to the indigent poor of Dubuque county.

It should be stated also that the specialists of the city are allotted specific times when they are subject to call for the care of indigent poor.

By this method the worthy poor are given the best medical treatment obtainable in Dubuque county. For instance: in case of a specific surgical operation on the eye—the poor person has the benefit of a skilled operator or specialist.

In case of necessity, there must be consultations had, then again the indigent poor gets the best skill there is in our county.

## SOCIETY PROCEEDINGS

### Cerro Gordo County Medical Society

Meeting of the Cerro Gordo County Medical Society held in the Chamber of Commerce rooms, Mason City, Iowa, February 28, 1922.

Meeting called to order by Vice-President Dr. Hubbard. Seventeen members were present.

Autopsy reports of two cases previously shown were given by Dr. G. M. Crabb.

The scheduled program for the evening was given, consisting of: The Anatomy of the Perineum, Dr.

Raymond Weston. The Perineum from the Clinician's Standpoint, Dr. C. F. Starr. The Perineum from the Surgical Standpoint, Dr. G. M. Crabb. The Perineum from the Genito-Urinary Standpoint, Dr. N. C. Stant.

Discussion was opened by Dr. C. M. Franchere, followed by Drs. Starr and C. P. Smith and discussion closed by Dr. Weston.

Wilbur L. Diven, Sec'y.

### Cerro Gordo County Medical Society

Twenty members of the Cerro Gordo County Medical Society and four visiting physicians were present at the monthly meeting of the Cerro Gordo County Medical Society which was held at Mercy Hospital, Mason City, Iowa, Tuesday evening, April 25.

After a short business meeting the meeting was turned over to Dr. J. T. Strawn of Des Moines, Iowa, who gave a talk and lantern slide demonstration on the subject, X-ray Diagnosis in Gastric Lesions. Discussion was opened by Dr. C. E. Dakin.

Following the program the Sisters of the Hospital served light refreshments to the physicians present and a short social session concluded the meeting.

W. L. Diven, Secretary.

### Kossuth County Medical Society

The Kossuth County Medical Society held a regular monthly meeting in Bancroft and had an unusually large attendance. The meeting was held in the Woodman hall. The following members and visitors were present: Cretzmeyer, Hartman, Fellows, Wallace and Kenefick of Algona, Smith of Britt, Janse of LuVerne, Filmore of Corwith, Peters and Clapsaddle of Burt, Sartor of Titonka and Devine and Maher of Bancroft.

### Story County Medical Society

Sixteen doctors of the Story County Medical Society were present at a dinner served at the Sheldon-Munn Hotel March 9 at 6:30.

Among the out of town doctors present were Dr. Houston of Nevada; Dr. P. Joor of Maxwell; Dr. McBryde, a government research worker, and Dr. F. H. Connor, of Nevada.

During the meeting Dr. Budge talked on Acidosis, followed by a talk, War Gas and its Effects Upon the Human Body, given by Dr. E. B. Bush. Dr. Connor of Nevada presented an abstract of a patient, giving the history and treatment of a complicated case, finally resulting in death.

The next regular meeting of the society will be held in Nevada April 21, on which date a tuberculosis clinic will also be held. A similar clinic, given under the auspices of the Red Cross and Story County Medical Society, will be held in Ames, April 14.

### Taylor County Medical Society

At the meeting of the Taylor County Medical Society, March 21, 1922, the following resolution was

passed. Whereas the Public and Profession are being sold out to—

(1) Foundation control of "full time" medical education.

(2) Lay board domination and the "closed shop" hospital.

• (3) Specialized state medicine, subsidized community health centers and hospitals under political or university control.

(4) Legislative dictation of therapy and fees.

(5) Demoralization of medical standards by the expansion of cults.

(6) Exploitation of the specialties by lay technicians.

Therefore Be It Resolved, That all the delegates of the Iowa State Medical Society to the A. M. A. meeting in St. Louis, Missouri, May 22-26, 1922, are hereby instructed to vote for—

(a) A change of policy and leadership in the A. M. A. pledged to the immediate abolition of the evils mentioned, and constructive protection of medical interests.

(b) The repeal of multiple representation and plural voting privilege by section delegates.

(c) The election of trustees for a period of two years; five trustees to be elected one year, and four the next, to prevent the trustees from perpetuating oligarchical rule.

Be it Further Resolved, That copies of these resolutions be sent at once to the official organ of the Iowa State Medical Society, the Journal of the A. M. A. and the medical advisory committee.

Passed March 21, 1922.

(Signed) B. H. MILLER, President,  
A. E. KING, Secretary.

#### Webster County Medical Society

At the regular meeting of the Webster County Commercial Club rooms, a paper was given by Dr. C. H. Mulroney. Dr. Mulroney had for his subject, New Methods in the Treatment of Fractures.

#### Shenandoah City Medical Association

An elaborate four course banquet was served at the Doty Hotel at 6 o'clock March 9 for members of the City Medical Association, Shenandoah.

During the evening a round table discussion on Tuberculosis was held. Those present at the banquet were: Dr. T. L. Putman, president; Dr. J. O. Weaver, Dr. M. O. Brush, Dr. A. O. Wirsig, Dr. B. S. Barnes, secretary; Dr. L. L. Baker, Dr. J. F. Aldrich, and Dr. W. F. Stotler.

#### HOSPITAL NEWS

Finley Hospital, Dubuque, is demonstrating in an interesting way what can be done in a standardized hospital in a comparatively small city. The laboratory of pathology and bacteriology issues a monthly bulletin. The one before us presents a study of chemical blood analysis in diabetes and

nephritis, in which it is stated that: "Valuable information in regard to diagnosis, prognosis and treatment of diabetes and nephritis may be obtained by chemical examination of the blood." Under the head of diabetes it is shown "that sugar is a normal constituent of the urine and that the amount may vary between 0.05 and 0.2 per cent." In view of this fact it is readily apparent that a definite diagnosis of diabetes mellitus cannot be made without an examination of the blood to determine whether or not a hyperglycemia actually exists. The details as to determination are presented in considerable details.

In regard to nephritis certain tests are of the first importance. (1) Blood pressure. (2) Urinary examinations. (3) Phenolsulphonephthalein excretion. (4) Non-protein nitrogen content of the blood. (5) Ability to excrete in the urine, added amounts of salt and urea given through the mouth.

Conclusions—(1) Diabetes cannot be definitely diagnosed without determination of the blood sugar. (2) Glucose tolerance tests are of great value in differentiating diabetes mellitus and renal diabetes. (3) Figures representing the H-ion concentration of the blood and the carbon-dioxide combining power of the plasma best indicate the severity of acidosis. (4) From the standpoint of prognosis in nephritis, estimation of blood creatinine should furnish valuable information. (5) From the standpoint of diagnosis and treatment of nephritis estimations of blood urea nitrogen are most useful. (6) Blood chemical findings are more dependable for diagnosis, treatment and prognosis in diabetes and nephritis, than similar determinations on the urine.

Owing to the large number of patients at the Lutheran Hospital, Des Moines, the fourth and fifth floors of the new nurses home will be opened to accommodate the increase.

The nurses home which is built out to the west of the original hospital is to furnish a home for about seventy nurses and rooms for fifty patients.

The home has been built at a cost of \$250,000.

It will be dedicated when the Iowa conference of the Evangelical Augustana Lutheran Church meets in April.

The conference will be held the week of April 24 to 30 and the hospital will be dedicated on the last day and opened as a nurses' home May 1.

Action was taken by the city council, Ames, at its regular meeting in the city hall March 20 which will assure the building of a nurses' home in connection with the Mary Greeley Hospital.

Contracts for erection of Allen Memorial Hospital, Waterloo, and electrical wiring, under modified plans, were awarded by the board of trustees and work will begin at once. Register & Buxton, Waterloo, was given the general contract on a bid of \$99,994; tile and marble work went to Waterloo Tile & Marble Co., at \$9,199 and electric wiring to Cole & Sweetman, also of Waterloo, at \$4,850.



The Kossuth Hospital will be opened at once, under the management of Mrs. A. W. Isaacson. The hospital will be open to all physicians in good standing.

### PERSONAL MENTION

Dr. and Mrs. C. F. Wahrer of Fort Madison, Iowa, have just returned from a two months' sojourn in California where they visited their daughter, Mrs. W. A. Bevan, whose husband, Captain Bevan, is chief engineer of Rockwell Field, A.S., Coronado, California, and Dr. Carl W. Wahrer, formerly of Ft. Madison, and member of the Iowa State Medical Society, now of Sacramento, California. Dr. Wahrer returned with increased health and is at it again as usual and expects to attend the annual session of the Iowa State Medical Society as usual. Mrs. C. F. Wahrer had the misfortune to fall a victim to pneumonia while at Coronado, which she contracted while at the Grand Canyon, where it was unusually cold. This augmented by an unusually cold and damp California weather, made her illness very severe, from which, however, she was fortunate to recover.

An honorary birthday dinner was given at the Osceola Sanitarium March 8 at 7:30 p. m. for Dr. W. O. Parrish, senior dean of the medical men of the county. Dr. Parrish observed his eighty-third birthday. The dinner was arranged by a committee of three doctors, J. D. Shively, F. W. Sells and C. E. Lowery. Medical men of Clarke county as well as others from Decatur county and Warren county were present as guests. Dr. Parrish was born at Hanover, Jackson county, Michigan, March 8, 1839. In 1848 his father, mother, brother and sister moved to Leslie, Michigan, on a farm. In the summer of 1856 he moved to Pella, Iowa. In 1857 he entered Central University as a student where he remained until 1860. Commenced clerking for O. Cole in a general store. In May he enlisted in Knoxville county for the Civil War; rendezvoused at Keokuk and put in Co. B. 3rd Iowa Infantry, was in all the battles with the regiment, marched with Sherman to the sea. Returned home in 1865, studied medicine under Dr. B. F. Keables. Attended medical college at Keokuk, Iowa. Graduated in 1868. Commenced practice at Galesburg, Iowa. In 1897 moved to Hopeville, Iowa. In 1897 moved to Osceola where he has spent the remainder of his life.

The Grundy County Medical Society has sent out invitations to a county meeting and banquet at Grundy Center on March 15 which is held in honor of one of the grand men of that county, Dr. Eugene A. Crouse. The event is in celebration of the completion by Dr. Crouse of fifty years of service to the people of the county. Dr. Crouse is a graduate of the medical department of the University of Pennsylvania and he came to Grundy county in the spring of 1872 and has been in active work every since. There is but one physician living today in

this section of Iowa who was practicing at the time Dr. Crouse began his work in Grundy county and that man is Dr. J. E. King of Eldora. Dr. Crouse is not as old a man as his fifty years' experience would indicate as he was young when he graduated from the medical school. He is young in spirit and still active in practice.

Dr. La Vine, formerly of Defiance, Iowa, a graduate of Creighton University, Omaha, will take up the practice of Dr. R. W. Robb of Blanchard.

### OBITUARY

Dr. W. A. Cooling died at his home in Wilton, March 17, 1922.

Dr. Cooling was born in Foster, Ohio, near Cincinnati, June 24, 1872, and came with his parents to Wilton when he was less than a year old. He attended the public schools of Wilton, and was graduated from the high school here in the class of 1890, thereafter attending Northwestern University and Rush Medical College of Chicago.

After completing his education, he entered upon the practice of medicine with his father, Dr. A. A. Cooling, with whom he continued his practice until the death of his father in 1900, since which time he has conducted an office alone.

His wife and one brother, Arthur B. Cooling of DeKalb, Illinois, survive.

Dr. R. E. Buchanan died at his home in Independence, March 10, 1922, from heart disease. Dr. Buchanan was an active man in the affairs of his home city. He continued his professional work up to March 2, eight days before his death. He was a member of the Buchanan County Medical Society; the Austin Flint-Cedar Valley Medical Society, the Iowa State Medical Society and of the American Medical Association.

Dr. R. E. Buchanan was born in Portage county, Ohio, in 1854, the eldest of nine children of Thomas Beatty and Martha Ray Buchanan. When only a few months old he was brought by his parents to Monroe county, Iowa, and lived there until 1872, when they removed to Turner county, South Dakota. During the next seven years he engaged in blacksmithing at Yankton and at Swan's Lake, proving up on a homestead meanwhile. It was in 1879 that he began reading medicine in the office of Dr. A. L. Peterman, a prominent physician of that section. Four years later, in 1883, he graduated in medicine from Rush Medical College. He first began practicing in Parker, South Dakota, served a term as mayor of that city, and continued there until 1891, except for a period in 1888, when he acted as superintendent of the insane asylum in Yankton, South Dakota. In 1891 he came to Independence and here he remained actively in the practice of medicine until his death.

In Parker, South Dakota, December 24, 1883, Dr. Buchanan was united in marriage with Miss Ella E.

Peterman. To them three children were born: Rose, who resides in the home; Georgie, the wife of Prof. T. R. Johnson, and who passed away in Momence, Illinois, September 14, 1914, and Dr. R. A. Buchanan, a practicing physician in Wessington, South Dakota. Dr. Buchanan is survived by his mother, who is in her ninety-second year and lives near Hurley, in South Dakota; also two sisters and two brothers; Mrs. Anna Woodward, of Hurley, South Dakota; Mrs. Emma Jones, of Sioux City; J. R. Buchanan, of St. Paul, Minnesota; Thomas Buchanan, of Hurley, South Dakota.

For thirty years Dr. Buchanan was one of the most prominent physicians and surgeons of this county, and for fifteen years he maintained his own private hospital. Dr. Buchanan was a successful business man as well as a successful doctor. He was vice-president of the People's National Bank and occupied the upper floor of the bank building for his offices. Dr. Buchanan was devoted to his profession. His idea of a vacation was to attend clinics and lectures by the leaders in medical research and practice, thus fitting himself to be of greater service to his own patients. He put into actual practice the old motto, "When there is life there is hope," and many owe their lives today to his dogged determination to fight to the very last.

### BOOK REVIEWS

#### THE PRINCIPLES OF MEDICAL TREATMENT

By George Cheever Shattuck, M.D., A.M., Assistant Professor of Tropical Medicine. Harvard Medical School; Formerly Assistant Physician Massachusetts General Hospital. W. M. Leonard, Inc., Publishers, 1921.

This book consists of outlines of treatment of different forms of disease. In chapter one is presented Disorders of the Circulatory System, (a) Cardiac Insufficiency, (b) Valvular Disease, (c) Pulmonary Edema, (d) Angina Pectoris. The treatment of these various conditions is offered as the methods employed at Massachusetts General Hospital under Professor Shattuck and his associates. Chapter two considers Nephritis under the classification of six types of the disease. Chapter three, Acute Infectious Diseases, (a) Typhoid Fever, (b) Rheumatic Fever. Chapter four, Acute Infections Most Common in Childhood. Chapter five, Acute Infections of Respiratory Tract. Chapter six, Pulmonary Tuberculosis, by John B. Howes, M.D. Chapter seven, Gastro-Intestinal Disorders, Gastric and Duodenal Ulcer. Chapter eight, Diabetes Mellitis, by Harrison Ragle, M.D. Chapter nine, Medication.

This is the fifth edition of case histories presented in attractive form with alternate blank pages for notes. The general practitioner of medicine will find this book a convenient aid in following an approved treatment of the common diseases and a sug-

gestion in case records and notes for private practice and hospital service.

#### THE LIFE OF JACOB HENLE

By Victor Robinson, M.D., Editor of Medical Life. Published by Medical Life Company, 12 Mount Morris Park, West, N. Y., 1921. Price \$3.00.

The older students of anatomy and histology will recall the name of Dr. Jacob Henle who was in his day the greatest German histologist. But little was known of his life and work beyond his histologic and anatomic researches. Dr. Robinson who has contributed much in the direction of medico-historical writing has with great industry worked out the private life of Henle which was full of interesting experiences.

A brief outline of his work is presented by the greatest living medical historian, Lieut-Col. Fielding H. Garrison of the surgeon general's library.

Dr. Henle was born in the summer of 1809 of Jewish parents at Furth, near Nuremberg, and died in 1885. He was one of Johannes Muller's favorite pupils, one of his prosectors in Berlin; was professor of anatomy at Zurich, 1840; at Heidelberg and Gottingen from 1852 to 1885; discovered the external sphincter of the bladder, the central chylous vessels, the internal root-sheath of the hair, the Henle tubules of the kidney and gave the first accurate description of the histology of the cornea and of the development of the larynx. These are a few of the discoveries of this remarkable man. Those who are interested in the lives of the men who made medicine, will find this book worth reading.

#### THE SURGICAL CLINICS OF NORTH AMERICA FOR OCTOBER, 1921

W. B. Saunders Company. Price, Paper \$12.00 Net, Cloth \$16.00 Net.

The Mayo Clinic Number of 296 pages with 163 illustrations is of great interest and value and is a volume in itself, of twenty-two subjects by nineteen contributors.

Dr. D. C. Balfour presents a paper on the use of the Actual Cautery in Treating Benign Lesions of the Stomach and Duodenum. Dr. Balfour has done considerable original work on this subject. Dr. C. H. Mayo gives a clinic on Gastrojejunal Fistulas Following Gastroenterostomy and on the Formation of a Cloaca in the Treatment of Extrophy of the Bladder.

Dr. Louis B. Wilson presents a clinic on Malignant Tumors of the Thyroid, illustrated by a series of cases—microscopic sections—and expresses the opinion that malignant tumors of the thyroid are more frequent than supposed. Dr. W. J. Mayo gives a paper on Splenic Syndromes, with cases relating to Splenic Anemia, Syphilitic Anemia, Pernicious Anemia, Hemolytic Icterus, Primary Polycythemia and Splenomyelogenous Leukemia.

(Continued on Advertising Page xvi)



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## BOOK REVIEWS

(Continued from Page 204)

Dr. H. H. Bowing presents a series of cases of Hodgkins Disease treated by radium and x-ray.

Dr. Adson, the Treatment of Brain Tumors—among the clinics on eye and ear. Dr. New presents a number of cases of an interesting disease known as Rhinophyma.

Dr. Ambrose L. Lockwood presents a paper on the Development and Possibilities of Thoracic Surgery. An important contribution is by Dr. V. C. Hunt on Acute Conditions of the Abdomen and one by Dr. M. S. Henderson on Incisions of the Knee Joint.

## THE SURGICAL CLINICS OF NORTH AMERICA

December Number, 1921. W. B. Saunders Company. Price, Paper \$12.00 Net. Cloth \$16.00 Net.

The New York Number contains an account of interesting clinics, a few of which we may particularly notice.

Fibrocystic Lesions of the Upper Portion of the Shaft of Femur, by Dr. R. W. Bolling. This contribution is of much interest and entitled to careful reading.

Dr. H. W. Meyer presents some valuable suggestions on Skin Grafting. Dr. Harold Neuhoof presents a series of clinics on Surgery of the Spinal Cord, and Dr. A. O. Wilensky on Fracture of the Skull Especially Relating to Neurologic Manifestations. Dr. F. W. Bancroft contributes a case of Old Posterior Dislocation of the Shoulder by Open Operation.

This number contains the index for volume one of the new series.

## THE MEDICAL CLINICS OF NORTH AMERICA

Mayo Clinic Number, September, 1921. W. B. Saunders Company. Published Bi-Monthly. Price \$12.00 Per Year.

There is need of saying little more than that the papers were prepared from the Mayo Clinic, with the greatest care and discrimination by twenty-one contributors.

The first paper may be particularly noted, because of its bearing on the diagnosis of nephritis. This contribution is by Dr. William L. Benedict; Retinitis of Acute Nephritis. Another is Primary Cancer of the Lung from the Roentgenologic Viewpoint, by Dr. Russell D. Carman. Although infrequent, it involves some difficulties in diagnosis. The symptoms are not pathognomonic and appeals to the roentgenologist for aid. Cardiospasm is an exceedingly interesting subject and important in diagnosis in stomach cases; is treated by Drs. Henry Plummer and Porter P. Vinson.

Atypical Pain, with Angina Pectoris, must appeal to every general practitioner, is presented by Dr. Frederick A. Willins.

In reviewing the communications in this number, all highly important, we find difficulty in selecting one paper more important than another, and can only single out a few to illustrate the value and importance of the Mayo Clinic Number.

## THE MEDICAL CLINICS OF NORTH AMERICA

November Number, 1921. W. B. Saunders Company, Published Bi-Monthly. Price Per Year \$12.00.

The number before is a Philadelphia number and contains clinics number from some of the foremost Philadelphia teachers of medicine. Dr. James M. Anders presents Some Forms of Functional Cardiac Disturbance, in which certain psychic factors are involved, the therapeutics of which has been much neglected leading to a decreasing confidence in doctors of medicine.

Dr. Joseph Sailer considers Some Mistakes in Abdominal Diagnosis, which should receive serious consideration and which leads to much difference of opinion among doctors, and distress to the patients, which might be avoided by more careful investigation.

An interesting communication appears from Dr. Joseph V. Klauder regarding the Clinical Value of the Kolmer Modification of the Wassermann Test, supplemented by a paper by Dr. John A. Kolmer on the same subject. Dr. Richard A. Kern presents a paper on Dust Sensitization in Bronchial Asthma which will be of interest to many.

Occult Tuberculosis (Masked Tuberculation) is the subject of a paper by Dr. H. R. M. Landis.

Another clinic we may note is by Dr. Thomas McCrea on Diagnosis of Acute Nephritis. We are able only to note a few of the clinics recorded in this number.

## BULLETIN OF THE STATE UNIVERSITY OF IOWA

New Series No. 198. Informal Account of Hospital Service Under the Perkins and Kaskell-Klaus Acts.

## WHAT IS CHRISTIAN SCIENCE?

By M. M. Mangasarian, Chicago, Illinois. 50 Cents.

This pamphlet of sixty-three pages is a philosophical discussion of the claims of Christian Science, not from the standpoint of a physician but from the standpoint of a layman of broad culture. It has been the privilege of the writer to listen to some of the philosophical lectures of Mr. Mangasarian and read a number of his productions with much profit.



# The Journal of the Iowa State Medical Society

VOL. XII

DES MOINES, IOWA, JUNE 15, 1922

No. 6

## MEDICAL PROBLEMS IN IOWA\*

A. M. POND, M.D., F.A.C.S., Dubuque

The science of medicine has made greater advance within the past thirty years than in the preceding four thousand years.

It is not surprising, therefore, that there has been developed a class of highly trained men who are adding daily to the sum total of scientific advance. They have left the great majority of their associates struggling to keep in touch, within a reasonable degree, of what constitutes modern medicine.

The public are informed, through the daily press, of the conquest of one after another of unsolved problems, and their demands made of the attending physician have increased, both in the degree and quality of service rendered. When this treatment does not measure up to the standard of their ideals, there is no hesitancy in dismissing the doctor of medicine, and taking on in his place one of the various schools of professed healing art, which are a direct outgrowth of the widespread interest in the treatment of the sick.

As if these complications were not enough, there are those in every community who are fired with the holy zeal of organizing various societies for the prevention of some formerly prevalent disease; or to look after the welfare of some dependent class of citizens; or for the building of sanatoria for this or that disability, until the conspiracy of these events have been classed under the head of state medicine. So many of the ills of the medical profession are ascribed to the coming of state medicine, that a certain number of easily excited or emotionally inclined individuals, have raised the heads of these "bogey" terrors among their fellows until they have succeeded in convincing some of the local leaders of impending dangers, which range all the way from being robbed of individual privileges, to the compulsory submission of a state or governmental commission.

There is no doubt whatever that there exists

some sort of a strained relation between the public and the medical profession. It is quite becoming, therefore, for us to attempt at this time some analysis of this situation, and if possible classify the causes and outline a remedy.

In the first place let us set aside the fear suggested to us, and approach the consideration of this problem in a calm and courageous manner, and with an earnest attempt to weigh the subject frankly; face and acknowledge the failures of our profession, and also take our stand for, and defend the advance made by our profession.

We live in an age of intensified invention and competitive industry, but we forget so easily, or we prefer to lull our awakened conscience by the fact that in the past our treatment served us well—so why bother about these new fangled notions.

We forget the day when a doctor was summoned to a call by messenger either on foot, or horseback. We are only partially conscious of the fact that by the ingenuity of man a great force of nature has been harnessed, and the messenger of old has been replaced by a centralized organization in the local telephone office, and that this invention has relieved many men and horses of today of running errands. Today this is all done in a fraction of the time, and with greater accuracy than in former days.

The doctor of even twenty years ago responded to these calls either on foot, if the case were in the neighborhood, or at best after a horse or team was made ready to convey him to the bedside. Today a doctor would not think of walking to a case even in a village. He drives an automobile—another invention of ingenious mankind, and a very large number of these medical men support a conveyance which would eclipse in splendor the most gorgeous equipage of former days. No doctor would think of beginning his practice today without a telephone, or without an automobile.

The future gives very splendid promise of even more radical changes in the manner of receiving calls and responding to them. What, with the radio phone, and safe transportation by air, may

\*President's Address Iowa State Medical Society, May 11, 1922.

we with conservative reason look forward to? The way of the successful doctor has materially changed. There was a time when a country boy who had to drive a team many times around a field in order to plow it, dreamed of a profession as an easy way to make a living. If those dreams were real enough he would get a book, and after his day's work in the field would lie down in front of a flickering fireplace and dig out the rudiments of an education. Later he would deny himself many necessities and all luxury in order to put himself through college; live on practically nothing; think much, and as a reward of starvation and want, finally receive his diploma. But with that diploma also went a certain amount of self-reliance and a degree of moral stamina, which are not so commonly found today. Now he may have the lights; books may be had from the library, and a college education is given by the state at less than its cost. The students have fraternities ranging throughout the Greek alphabet. They have recreational bureaus, and co-education, and a student of today lists among his legitimate expense, bunches of American beauties and boxes of chocolate fudge.

This modern graduate of medicine is, however, a factor we must reckon with, and as a society of the great state of Iowa we should endeavor to create in every county the facilities that modern medicine may require, so that these bright, highly trained men may be attracted to the smaller communities usually denied such service.

It is a common belief that the state of Iowa has never produced a medical man whom the world called great. Perhaps much depends upon the attributes of the great. Perhaps the sacrifice of one's life for the advancement of a scientific truth which has proved of inestimable value to countless generations, can be considered true greatness. If so, Iowa has been signally honored by the services of Dr. Jesse W. Lazear, a young man from Davenport, who died September 25, 1900, a martyr in the experimental work done in yellow fever by the United States Army.

Within the past sixty days the writer heard a representative of the Rockefeller Foundation say, that in his survey of the state he found something over 70 per cent of the Iowa doctors were graduates from Class "A" medical schools. This percentage is not exceeded by any states in the Union so far as the survey has been made.

The Journal of the Iowa State Medical Society ranks among the first five in the list. Iowa takes twelfth place in the line of accredited hospitals in the American College of Surgeons, and while we may not be able to lay claim to the fact

that the membership list of our society contains many names of nationally or internationally prominent men, we can and do proudly claim that our society is made up of medical men of a higher general average than falls to the lot of most states.

We would be ashamed if our profession had not kept pace with the advancement of other branches of science or invention. However, we are not quite so keen about appropriating the advances in diagnosis and treatment as we are to obtaining the case or the patient. Willingly would we install our telephone and build our garages, and buy our autos, and straightway become so busy that we have not the time to give our patient the benefit of a fraction of the resources modern medicine offers us in treatment or diagnosis. We lose sight of the fact that virtue is its own reward, and that the art of a thorough physical examination has done more to build the fame and reputation of successful doctors, than the display of all sorts of costly equipment in their office.

The x-ray is a most valuable adjunct to confirm a suspicion founded upon a physical examination, but it can and does lead to serious error unless used as an adjunct. Routine Wassermann and blood chemistry examination would clear many a perplexing problem of case history, and even a careful urinary examination may frequently point to a diseased right kidney and thus save the more easily accused appendix, or gall-bladder; or reveal to the careful examiner the existence of diabetes, the gastric crises of which has resisted the treatment for stomach disease in the hands of his careless neighbor.

Thus comparisons and similes could be continued almost indefinitely, but would not serve the purpose of emphasizing the importance, the prime importance of a careful, painstaking, physical examination no better than has been accomplished.

The great clinics of America, and presumably of other countries, flourishing at this time, may very properly ascribe their generous patronage to the failures of the careless, or hurried, or indifferent doctors, who at the first opportunity failed to make a diagnosis.

Would it be interesting to note that in three thousand cases of fractured femur occurring in North America during the year 1920, but ninety-four of them recovered, with the result of a disability of 10 per cent or less? How many of us would acknowledge that we could not treat a fracture of the femur with a better average? In the state of Iowa during the year 1920, more than



twenty-five hundred young women gave up their lives during child birth. How many of us would acknowledge an obstetrical ability of such an average?

It is logical, therefore, that there should arise a class of healers who will make capital out of the unfavorable results of the earnest and honest doctor, and establish some new system or school of healing which promises more than they could by any reason hope to fulfill. Nevertheless, they are received by the community as healers, and if the medical profession seek to have laws passed regulating the educational standards of those who profess to care for the sick, then a cry arises from the ranks of the new cult, of persecution, which immediately attracts to its cause many legislators who pride themselves upon the representations of the great American principle of liberty.

Thus they are licensed and permitted to practice as a class, and privileged to a lower standard of preparation than is exacted of the medical profession. We have as a result a choice variety of "pathies," "practors," "healers," "rubbers," etc.

The doctors of twenty years ago had these same problems and trials from the same cause. It is not so very long ago that the question was asked, "Are you an 'Allopath,' 'Homeopath,' or 'Eclectic?'" Time has solved these problems and in so doing has obliterated the dividing class lines.

The requirements of education for all who graduate as a doctor of medicine have become standardized, and we have as very prominent members of this society, many men who took their medical course in schools other than the regular school of medicine, and let it be said to their credit, that they have reflected honor and distinction, by their experience, upon the Iowa State Medical Society.

Just why the public activities in relief of suffering, or want, should be classified under the head of state medicine, does not readily appear. When the various organizations were being formed in this state, some doctors were invited to participate; for some reason they declined service, but offered advice. The men who were sponsors for these movements were successful business men, and they were determined to see these organizations completed and perfected. They would like to have some doctors associated with them, and be glad of their counsel, but if the doctors shied at this movement by reason of real or fancied ethical restriction, then, they proposed to go on with it in any event, and the medical profession could go hang.

The Red Cross was organized in Iowa by wide-awake, efficient business men with ideals. The

Iowa Tuberculosis Association, The Iowa Visiting Nurses Association, The Iowa Council of Social Welfare—all of them, if not organized by the same group of prominent citizens, were certainly supported by them financially and morally. All of these activities are in response to the modern demand of a public need.

#### WE LIVE IN THE TWENTIETH CENTURY

We are not driving a horse hitched to a gig any more. That was yesterday. We drive a "horseless carriage" which became an automobile. Tomorrow we may go by aeroplane. Let's get ready today to fly tomorrow. No one can tell what problems in professional affairs the future has for us, but we can be ready for almost any ovation which rings true, comes in response to a public need and is devoid of selfishness.

Now when the subject of public health, preventive medicine, social hygiene, health insurance, pre-natal institutes, community hospitals, baby folds or infant welfare bureaus are mentioned, the hue and cry goes up of state medicine. This attitude of the medical profession lets us in for some justifiable criticism. Just why should not the profession of Iowa be interested in all of these functions, and just why should not the Iowa State Medical Society with its component county societies recognize these associations as expression of a public need? Just why should we not co-operate with these organizations and if possible enlist other factors to join the movement—The State Board of Health, The Medical School of our University, and the Extension Division of our State Institution? By co-ordinating all of these allied factors might not the Iowa State Medical Society broaden its usefulness by becoming actively interested in public welfare?

It stands to reason that the State Board of Health could function more efficiently in every department of its scope, if assured of the hearty, constructive co-operation of the entire State Medical Society. Public Health and Preventive Medicine should have an active part in the program of our state society, and if we do not see to it that some provision is to be made for a discussion of these subjects, we can very surely look forward to the time, in the near future, when there will be a separate and distinct organization for those interested.

Can we afford this continuous division of our membership? Would it not be far better for all concerned that we make the provision for a representation of these various organizations of allied medical and health problems, and thus give our own members the advantage of the best thought along these lines, than, by indifference,

or lack of interest, permit the organization of another group?

Dr. Donald Macrae in his president's address last year, sounded a note of distinct and real progress for our Society. A committee was appointed in harmony with his suggestions, and this committee is ready to report.

In closing, therefore, let us not be pessimistic. Conditions in our state do not warrant a gloomy attitude. However, they do require some clear thinking, some deliberate action, and unselfish and generous motives to bring what may appear on the surface to be contending forces, into a camp of united effort for the prime purpose of the service.

When we graduated in medicine our diploma conferred upon each of us a degree of being qualified to "treat the sick." Let us stick to that qualification and make it our ideal in the biggest, best and most practicable manner possible.

*"Don't blame the world when things go wrong  
And you have met rebuff,  
Don't censure any of the throng  
Who choose to call your bluff;  
Investigate and you will find  
That what I say is true,  
Don't tell me that this world's unkind  
It's not the world, it's you."*

#### TYPES OF SEVERE ANEMIA\* WITH ESPECIAL REFERENCE TO SECONDARY HYPOPLASTIC ANEMIA

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The anemias have in recent years been generally classed under some such scheme as the following:

1. Post-hemorrhagic—acute and chronic.
2. Secondary or symptomatic.
3. Anemia due to disturbance of hemogenesis:
  - (a) Chlorosis. (b) Aplastic anemia—primary and secondary. (c) Myelophthisic anemia (including anemia associated with leukemia).
4. Anemias due to hemolysis: (a) Toxic group. (b) Symptomatic hemolytic anemia. (c) Ictero-anemia. (d) Pernicious anemia.

1. *Hemorrhagic anemia* presents clear cut pictures when it is acute in its development and also in more chronic cases when considerable losses of blood have occasioned rather marked anemia

from the beginning. In cases in which small losses of blood have occurred over a long period of time there is often a picture that is not so clear and it is probable that such cases may at no stage present the marked features of the acute or of the more rapidly developed chronic group. These very slowly developed chronic hemorrhagic anemias from small blood losses are relatively uncommon and will not be further considered at this point. Ordinary post-hemorrhagic anemias are clearly indicated by the more or less pronounced reduction in red cells and the relatively greater reduction in hemoglobin. There is little change except some pallor in the appearance of the red cells, but nucleated red cells (normoblasts) are frequently found and may be abundant. Leucocytosis is usually present and the polymorphonuclear neutrophils predominate. Repeated large hemorrhages extending over a considerable period of time occasion a form of anemia not dissimilar from that just outlined except that there is a greater reduction in the number of red cells and considerable alteration in their morphology is frequently observed. Variation in the size and shape of the cells, are more striking than polychromasia. Erythroblasts are less abundant than in the acute cases and leucocytosis is less marked, except perhaps immediately following one of the recurring hemorrhages.

The hematologic features of post-hemorrhagic anemia are clearly attributable to the direct loss of blood and the dilution of the blood mass with tissue fluids and to the subsequent increased hemogenesis stimulated by the loss.

2. *Secondary or Symptomatic Anemia* occurs in a great variety of diseases including infections, parasitic diseases, malignant tumors, and intoxications. The hematologic features in the acute and chronic cases vary somewhat as do those in acute and chronic post-hemorrhagic anemias, and there are minor variations in the case of anemias due to different infections, parasites or intoxications. In general, however, we find in the more acute cases a chloro-anemic picture similar to that seen in acute anemia after hemorrhage, but with, as a rule, less tendency to the appearance of nucleated red cells, while leucocytosis is often distinctly more marked. Changes in the morphology of the red cells are slight even when the anemia is quite severe. Exceptions to these statements occur in some cases, for example, in the pronounced anemia of some cases of lead poisoning or other toxemias. In the more chronic symptomatic anemias greater reduction in the number of erythrocytes and relatively less marked reduction of hemoglobin with less leucocytosis are

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usual while the morphology of the red cells may show pronounced alterations. The high grades of anemia occasionally met with as a result of long continued small hemorrhages closely resemble the more chronic and severe secondary anemias. Considerable variations in size of the red cells and occasional or even abundant macrocytes, marked poikilocytosis and decided polychromasia are found in the severe and more prolonged cases. Erythroblasts are not numerous but an occasional normoblast or megaloblast may be found. The number of leucocytes is distinctly lower than in acute cases. With continuance and, perhaps, increased severity of such cases there is sometimes a further fall in the number of red cells, occasionally to below 1,000,000 while the hemoglobin may remain nearly stationary or decrease more slowly so that in the end a color index of 1 or 1.4 instead of a lowered index is reached. The leucocytes in the meantime may likewise diminish in number to normal or below normal, the neutrophilic polymorphonuclears in particular becoming less abundant while the lymphocytes are in relative excess. There is a manifest and pronounced difference in the blood picture of such extreme cases as contrasted with ordinary or even somewhat prolonged symptomatic anemias which suggests an added pathogenetic factor.

The development of secondary or symptomatic anemias may with probable correctness be attributed in part to blood destruction and in part to diminished hemogenesis. That there is a large element of hemolysis in the anemia of various infections especially malaria, pneumococcus and streptococcus infection and in certain toxemias such as lead poisoning or arsenic poisoning seems fairly clear despite the fact that our methods of determination do not clearly show the features which we are accustomed to think of as evidences of hemolytic anemia. There are, however, reasons for suspecting that failure of hemogenesis is also a factor in the development of the anemia in these cases. So far as the latter factor may be indicated by evidences in the blood of failure of bone marrow activity (reduction of platelets, reduction of skein cells and diminution of polymorphonuclear neutrophils) we have little that is positive. On the other hand there is a marked disproportion between the degree of anemia attained in many cases and any evidence whatever of hemolysis.

The interpretation of the cases of very severe and it may be very prolonged secondary anemia, in which extreme reductions in the number of red cells, normal or high color index, normal leucocyte count or actual leucopenia and more or

less morphologic variation of the erythrocytes are the outstanding features, is uncertain, but as it is particularly this class of cases to which I desire to direct attention, let me reserve the fuller discussion until I have completed in brief outline the description of the other groups of anemic disease.

### 3. *Anemias due to disturbance hemogenesis.*

(a). Chlorosis, a disease which has been little discussed in recent years, seems clearly dependent upon some defect in blood-making. Whether some original structural fault in the mesoblastic (erythropoietic) tissues or an organic or functional disturbance in the sex glands is the fundamental cause remains undetermined. In connection with the possibility of an endocrine basis, one may recall the occasional occurrence of severe anemia in cases of myxedema. One such recent case in my own experience had suggestive resemblances to pernicious anemia and terminated in complete paraplegia due to spinal sclerosis.

The blood picture in chlorosis as originally defined by Duncan consists of marked reduction in the hemoglobin without reduction in the number of the red cells, and later studies emphasized the absence of morphologic changes in the red cells or alterations in the number or kind of leucocytes. While this is the picture of freshly developed cases, considerable change takes place in untreated or inadequately treated cases that have become chronic. In these one finds decided diminution in the number of red cells and consequently less pronounced disproportion in the percentage of hemoglobin and corpuscles. It is clearly the inclusion of cases of this advanced type that has somewhat changed the picture of the disease as described by some authors of later date than Duncan (see VonNoorden's article "Chlorosis" Nothnagel's Cyclopaedia, American edition). That this change occurs in prolonged and uncured chlorosis was noted by various earlier writers and has been clearly shown in a number of my own cases where the earlier (Duncan) picture was followed by the later features. In this late stage the disease is hematologically indistinguishable from many cases of undoubted secondary anemia. To those cases of secondary anemia in which the poverty of hemoglobin is especially marked, it has become customary to give the title Chloro-anemia, while in an adjective sense the term Chloro-anemic is used for any anemia even tending in this direction. The recognition that secondary anemia may present this type of chloro-anemia and that the underlying cause of a symptomatic anemia may be obscure has led most of us in recent years to classify as secondary anemia cases which may well have

been chlorosis and it is notable that hospital statistics contain less and less reference to this disease. Chlorosis, however, is a definitely established condition and should no doubt be more in our thoughts than it has been of late. That it may grow into a form that more strongly suggests secondary anemia than the picture which is usually described and may finally, in exceptional cases, resemble pernicious anemia is quite certain. Some of my case reports of refractory types followed through a series of years indicate this very clearly.

(b). Aplastic anemia may be a primary condition of obscure etiology or may be secondary to definite causes. The former is a disease now quite well recognized in which rapidly increasing anemia occurs without any clear indications of hemolysis but with evident failure of blood making function as is shown by the usual absence of nucleated red cells, and the great reduction in the number of skein cells and platelets, of the total number of leucocytes and of the polymorphonuclear elements in particular. A marked hemorrhagic tendency is found to correspond with the diminished number of platelets.

A secondary form of aplastic anemia results from certain forms of intoxication, very strikingly from benzol poisoning as was shown in the report of one of my cases in a workman exposed to a "spill" in an aniline dye works. Less conspicuous cases are no doubt fairly common and are likely to increase in frequency with the more extended use of benzol and its derivatives or related poisons in various industries. In this connection I wish to state that a somewhat striking occurrence of cases of severe anemia among chauffeurs and men working about garages has impressed me of late.

The hematological features of these toxic cases may closely resemble those of primary aplastic anemia though there are, as a rule, greater alterations in the morphology of the red cells, and other features including jaundice, suggesting some associated hemolysis.

(c). Myelophthisic and post-leukemic anemia and that following exposure to radiation. The destruction of the marrow by metastatic tumors or leukemic infiltration is known to produce a type of anemia, sometimes intense and with evidences in the earlier stages of marrow excitation and later of hypoplasia or aplasia of the marrow. Similar results (without the earlier excitation) occur in cases of prolonged radiation, particularly, I believe, where the treatments have been directed over the marrow.

In all of these conditions there is essentially a

direct destruction of marrow with resulting loss of hemopoietic function. The anemia that results may be extreme but does not present features suggestive of a hemolytic factor in the etiology.

4. *Anemia due to hemolysis.* (a). Toxic group. Marked hemolytic anemia may be caused by various forms of poisoning such as T. N. T., Di-nitro benzol, chlorate of potash, acetanilid or the venoms of certain animals. Certain infectious anemias occasionally fall in this group. Such cases are distinguished from ordinary secondary infectious anemias, in which the probability of a hemolytic factor, is admitted though not evident, by the excessive degree of hemolysis and its conspicuousness in the clinical picture.

Rapidly increasing destruction of red cells with pronounced morphologic changes in the circulating erythrocytes and the development of jaundice, enlargement of the spleen and increased output of urobilin or other blood pigments are conspicuous in this group. It is unnecessary to discuss more fully the features observed.

(b). Symptomatic hemolytic anemia may occur in occasional cases of pregnancy, lues, or carcinoma but are too unusual to warrant further discussion.

(c) *Hemolytic Ictero-Anemia—congenital, or acquired* and of varying grades of severity, constitutes a group in which the associated splenic enlargement and jaundice with the increasing anemia and, as a rule, increased fragility of the red cells are conspicuous features. In the earlier stages and especially in the congenital form comparatively moderate changes in the erythrocytes may contrast with the other clinical features. The red cell count may also be little altered from the normal or, at least, may not be reduced below that of moderate anemia; but as the disease advances, marked changes in the morphology of the erythrocytes and profound anemia may develop and at times hemorrhagic phenomenon complicate the picture and increase the impoverishment of the blood. In several cases in our series the disease terminated as a grave purpuric condition. The blood picture in advanced stages gives evidence of the hemolytic nature of the disease—marked changes in the red cells, fragmented cells, polychromasia and pigmented cells—while throughout the disease and before any changes in morphology are discovered excessive urobilin excretion signifies the augmented blood destruction.

(d). *Pernicious Anemia.* All modern writers regard this severe and eventually fatal disease as essentially a hemolytic anemia and give



little or no consideration to the older view that faulty hemopoiesis may be a contributing factor. Some designate the disease simply as cryptogenic hemolytic anemia and nearly all agree that the blood destroying agent whether infectious or toxic is of unknown source. I shall not delay even to mention the various views held regarding possible origins. The recognition of the disease when pronounced and typical offers no serious difficulties. The extreme reduction in the number of the erythrocytes, their marked alteration in size and shape, the presence of more or less abundant bizarre forms, the occurrence of decided polychromasia, of pigmented (granular) red cells and of erythroblasts, especially megaloblasts, and the presence of a large number of erythrocytes of excessive size (magalocytes) gives the blood picture of typical cases a pathognomonic character. Furthermore, the appearance of the patient (yellow or icteric color), the increased excretion of urobilin in the urine and the excess of total urobilin in the feces and urine are significant features. Unfortunately, there are cases of quite advanced stage in which the character of the blood and the clinical conditions are atypical and on the other hand, pronounced hemolytic anemias of other kinds and sometimes secondary anemias may closely resemble pernicious anemia in their hematologic manifestations. Additional confusion is caused by the fact that in its earlier stages and during remissions, the blood picture may be very slightly suggestive of the disease. The recognition of the disease is, therefore, far less simple than is sometimes believed and errors of omission as well as of commission are not infrequent. That we may make as few as possible of the former type of errors it is necessary to review the data already mentioned as well as some additional clinical features to determine, if possible, the limitations of the term pernicious anemia.

1. *Fatal Termination not Diagnostic.* In early descriptions of the disease emphasis was placed upon its fatal termination and it is clearly evident in the literature that the tendency to a fatal termination is one of the factors in diagnosis that has been given great weight. In practical clinical experience, I believe few of us have failed seeing cases which have been regarded as pernicious anemia because they were instances of severe anemia without any discovered cause and unrelieved by treatment and despite the fact that the clinical and hematologic features as a whole did not warrant such a diagnosis. That this is a common error of those not especially familiar with blood diseases, my experience compels me to

believe. Though we may find ourselves unable to differentiate the type of profound anemia, we should recognize that the evident lethal tendency of the case does not justify the diagnosis of pernicious anemia. It must, of course, be conceded that when the hematologic features suggest the diagnosis inefficacy of all forms of treatment and a fatal ending warrant a positive decision.

2. *Morphologic Changes in the Red Cells.* The combination of all of the recognized abnormalities in the blood picture undoubtedly establishes the diagnosis almost positively, but cases otherwise typical may be wanting in one or more features.

Marked alteration in the character of the red cells may be absent in early stages and may disappear during remissions, and exceptionally may be long delayed in their appearance in cases otherwise quite definite. I recall one in which during a year of increasing anemia never typical in the count and color index, there was a complete absence of morphologic change in the red cells and no erythroblasts were found, yet spinal degeneration occurred and finally caused complete paraplegia, the tongue was characteristic and before death the blood picture was nearly typical. Except in early stages and in remissions such absence of morphologic changes is rare and a diagnosis in their absence is difficult, indeed.

*Erythroblasts.* Great weight is given to the significance of nucleated cells and it has sometimes been suggested that the absence of such cells or even of the form termed megaloblasts should exclude the diagnosis. A number of years ago a hematologist took me to task for venturing a diagnosis of pernicious anemia in a case in which there were only normoblasts. Such a criticism would hardly be made today and it is generally admitted that blasts of all sorts may be wanting, though usually in these cases repeated examinations will sooner or later reveal their occasional presence. Megaloblasts when present, and this is doubtless the case in the majority of instances, are especially significant, but they are not diagnostic as we well know they may occur in occasional severe anemias of other sorts.

*Megalocytosis*—not the presence of an occasional large form but a definite increase in many—perhaps an average increase in size—is highly significant and rarely met with except in this disease. Its absence does not exclude the diagnosis when other conditions strongly indicate it.

The other morphologic conditions taken separately—anisocytosis, poikilocytosis, polychromasia and granular pigmentation—must not be given undue weight but are features that are usual

and important in the whole picture and taken together are significant though not diagnostic.

3. *Evidence of Hemolysis.* We rely upon the yellowish color of the patient or the blood plasma, fragmentation and other marked changes in the red cells, urobilinuria and increase of total urobilin in feces and urine, and enlargement of the spleen (which is somewhat proportional to the degree of hemolysis) as the best evidences of blood destruction. Estimations of the urobilin in the feces and urine or in the duodenal fluid would appear to be the most exact method and are undoubtedly in quantitative determinations the most useful; but we meet with occasionally cases of undoubted pernicious anemia in which these methods fail. Several have occurred in my own recent experience. It may not be assumed from this that pernicious anemia is not necessarily a hemolytic anemia, nor even that hemolysis was temporarily absent in these cases. In each of the instances referred to other features left little doubt of the presence of a hemolytic process. Similarly there are cases showing none of the usual yellow discoloration while urobilin tests are positive. The evidence, as a whole, rather than a single criterion must be relied on, and it must also be remembered that a certain yellowness of the skin may be found in non-hemolytic secondary anemias just as it occurs in certain individuals who have suddenly grown faint or in a person suffering from acute nausea.

A diminution of platelets, less marked than in aplastic anemia, a leucocyte count nearly normal or below normal but less decided leukopenia and relative lymphocytosis than are found in aplastic anemia are other factors in diagnosis.

Diminished fragility of the red corpuscles is commonly present in pernicious anemia and has a certain slight value in distinguishing this condition from severe secondary anemias. It is, of course, in sharp contrast with the increased fragility of ictero-anemia.

Some increase in the percentage of skein cells is usual in the earlier stages and generally throughout the whole disease. In late stages a flagging of hemogenesis may be accompanied by a diminution of these cells.

Among the clinical symptoms that deserve some special consideration are the condition of the tongue, the analysis of the gastric contents and nervous manifestations.

A peculiar redness of the tongue, sometimes of a raw, at other times of a shining character, with or without thickening (glossitis) and painful sensations in the mouth and especially in the tongue are frequent early manifestations of pernicious

anemia. When combined with an evident, increasing impoverishment of the blood, these symptoms are highly suggestive, especially in patients past middle life, but they are by no means necessarily forerunners of pernicious anemia nor are they adequate to determine that a given anemia, not otherwise suspicious is pernicious anemia.

In cases of oral sepsis with severe secondary anemia one sometimes sees precisely the same conditions of the tongue as in pernicious anemia.

Absence of free hydrochloric acid with or without the absence of ferments occurs so frequently that it has a considerable value in diagnosis, particularly as there is far less commonly such acidity in cases of even the most profound secondary anemias when these are independent of gastric disease.

Much has been said in recent years of the diagnostic significance of nervous symptoms and in particular of spinal cord disease (postero-lateral column disease). While it is quite true that an early development of numbness and tingling or pains in the extremities, particularly in the feet, is highly suggestive, and that in the more developed stages of the anemia loss of the sense of position of the toes or foot (acroataxia) and of vibratory sensation (bone sensation) with changes in the reflexes (knee and ankle) are significant of cord degeneration, it must be remembered that similar cord disease has been repeatedly described in cases of leukemia, has been produced experimentally by interference with circulation and I may add from my own experience that it occurs now and then in profound secondary anemia. Nevertheless, the far greater frequency of occurrence of these symptoms in pernicious anemia gives them a suggestive value in diagnosis that cannot be ignored. In passing, I wish to state that in a few instances I have seen the nervous symptoms pronounced before there was notable anemia and this of uncertain type.

I have thus, perhaps, at somewhat wearisome length, but without great detail reviewed the outstanding hematologic and symptomatic features of pernicious anemia that we may have it before us for contrast with the conditions found in certain severe and prolonged secondary anemias (infectious, post-hemorrhagic or toxic) to which I referred in an early part of my discussion. I allude to those cases in which with long continuance of the cause of secondary anemia and after what appears as an exhaustion of the reparative hematopoietic function the character of the anemia changes, losing most of the features that ordinarily suggest secondary anemia. These



cases may reach extreme grades of severity and they may terminate fatally, apparently without any added cause other than the exhaustion of severe anemia, and for these reasons are likely to be regarded as pernicious anemias. Even before the fatal issue seems immanent, failure of all forms of treatment to improve the blood picture suggests a diagnosis of pernicious anemia. That there is a condition of exhaustion of the blood making powers in cases of continued anemia seems natural enough and was long ago mentioned by Laache and Ehrlich. The former found that the red cells increased from 1,600,000 to normal in two months in a case of acute post-hemorrhagic anemia while in a case of anemia from repeated rectal hemorrhages (hemorrhoids), the return to normal from 2,500,000 erythrocytes required eight months after all hemorrhages had ceased. Ehrlich showed experimentally that after repeated bleedings the regeneration was much slower than in cases of equally severe anemia due to a single loss of blood. In confirmation of Laache's observation, I may refer to two cases of my own in which attempts to relieve post-hemorrhagic anemias, after removal of hemorrhoids and cessation of all hemorrhage, failed completely till the anemia was partially corrected by transfusions, after which further improvement went on progressively under medical and dietetic treatment.

Profound anemia with red cell counts below 1,000,000 and with a color index of one and one plus may be found in the group of cases under discussion and by reason of its severity naturally suggests pernicious anemia. The differential diagnosis is by no means easy and in some cases, perhaps, impossible. A careful consideration of all of the data obtained by clinical and hematologic study must precede any decision. Off-hand diagnoses are the cause of most mistakes and it is important to remember that the possible discovery of a cause for a severe anemia may lead to successful treatment, whereas, a decision in favor of pernicious anemia will usually be followed by abandonment of any serious efforts.

A study of these cases of profound secondary anemias shows an absence of evidences of hemolysis, excepting that some fragmentation and other morphologic changes in the red cells may be suggestive. The urobilin excretion is subnormal, the color of the skin and plasma of the blood are not suggestive of hemolysis (though a certain yellowness of skin without change in the sclera may be seen in advanced and somewhat rapidly developed cases). On the other hand pernicious anemia may be suggested by the fact that the

number of leucocytes falls with prolongation of the anemia until a normal figure or possibly even a moderate leukopenia is reached, while the neutrophile polymorphonuclears diminish progressively and relative lymphocytosis (not as a rule as great as in pernicious anemia and much less than in primary aplastic anemia) follows. Nucleated red cells of all kinds are usually wanting; exceptionally a normoblast or even megaloblast may be found. In most cases the red cells show much less morphologic alteration than that which is common in pernicious anemia, and polychromasia and granular pigmentation are far less conspicuous. True megalocytosis is decidedly exceptional though here and there a large giant red cell may be found. The blood platelets are often definitely reduced though less decidedly than in pernicious anemia. Skein cells are commonly increased in number in pernicious anemia and are usually reduced in number in this group. Intercurrent infections provoke a reactive neutrophile polymorphonuclear leucocytosis much more frequently than is the case in pernicious anemia; but in the latter disease, I have sometimes seen this quite marked though it is more often wanting or very slightly evident.

Enlargement of the spleen is distinctly more common in pernicious anemia than in the type of severe secondary anemias under consideration, but there are, of course, instances of the latter group (infectious, toxic) in which splenic enlargement may be a striking feature.

A consideration of these facts has led me to classify these cases as secondary hypoplastic anemia and I wish to emphasize the importance of recognizing the type because it evidences one of the tendencies of unrelieved chronic anemia and because of its suggestive resemblance to pernicious anemia.

I would not wish to give the impression that such a hypoplastic or asthenic condition of the hematopoietic system and especially the marrow is peculiar to any special form of anemia. I believe that it underlies the development of the condition, much discussed in former years, known as late chlorosis; and it may be the end stage of anemias due to continued slight losses of blood and various toxic anemias, whether hemolytic or otherwise, as well as the prolonged anemias of mild sepsis—focal infections, chronic infective endocarditis, etc. There are also similar changes in the blood picture in chronic leukemia, after x-ray treatments and in cases of continued ictero-anemia. But in all of these, except the hypoplastic anemia following obscure secondary anemia some features of the earlier conditions re-

main and the diagnosis is, therefore, less obscure. When it has developed gradually from a secondary anemia of obscure etiology the end picture may superficially resemble that of pernicious anemia so closely that careful blood studies and searching clinical investigations alone will enable the clinician to exclude the diagnosis of pernicious anemia. Less frequently primary aplastic anemia is suggested and is to be excluded by a full review of the clinical course of the case and by the absence of the pronounced evidence of failure of bone-marrow function characteristic of this disease.

### THE PRESENT STATUS OF THE TREATMENT OF PERNICIOUS ANEMIA\*

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A general summing up of the treatment of pernicious anemia for the past years, leads a person over a varied course, but after reading the results, all have terminated practically the same way, namely in failure, and no treatment of pernicious anemia directed against its cause has yet been found successful, except for the forms produced by intestinal parasites, especially the *Bothriocephalus latus*, and as a matter of fact the removal of the worm in these cases first demonstrated that the parasite was responsible for the disease.

Acting upon Hunter's hypothesis that the disease is a streptococcus infection several investigators namely, McPhedran, Walsh and others have tried the effects of an anti streptococcus serum, but the results were uniformly disappointing. Various forms of mouth washes, and intestinal anti-septics have been tried on the same hypothesis.

Hunter's suggestions for treatment were, anti-sepsis of mouth, gastrointestinal antisepsis, administration of arsenic and anti-streptococcus serum. Some investigators guided by the results of organotherapy, in other diseases, have tried it in pernicious anemia, proceeding on the assumption that the disease takes its origin in the bone marrow. In administering marrow, they have sought a casual therapy, also drug houses have supplied an elix of red bone marrow. The literature contains reports of such treatment from Frazer, Barrs, Drummond, Pepper and Stengel Grawirtz and others, the last named authority observed absolutely no results from its administra-

tion, while others attribute to it the recoveries in several of their cases. The most authentic reports see in the administration of bone marrow only a treatment, and not a very energetic one. In 1877, Byrom Bramwell recommended the use of arsenic in pernicious anemia, this remedy has been employed more than any other, and has at times even acquired the reputation of a specific. Padley was first to show a series of comparative statistics in regard to the results of treatment with iron and other remedies on the one hand and with arsenic on the other. Among forty-eight cases in the first group, forty-two died, two were still under treatment, in three the results were not given, one was cured. Among twenty-two treated with arsenic, Padley observed sixteen recoveries, two improvements, four deaths. Among fifty-seven treated with arsenic, Furbringer reported four relatively cured, sixteen improved, ten unimproved and twenty-seven deaths.

You will notice no relative time is given as to the length of time occupied by the treatment, or as to the length of time the patients reported cured remained so. The administration of phosphorus, quinine and the inhalation of oxygen, have been tried in several cases, and are mentioned only for the sake of historic interest.

In the general management and diet of a case of pernicious anemia, we have two very important adjuncts and I must say in a number of cases are very often neglected entirely. I do not care what your treatment of the case may be, if you neglect the nutrition of your patients and do not see to his comforts of living, symptoms will soon set in, that will take your patient off. To keep up the nutrition of the patient is sometimes exceedingly difficult. In severe cases the vomiting and absolute distaste for every kind of food may render it impossible to give any nourishment in quantities worthy of consideration. For a time after vomiting ceases, we must be extremely cautious and limit ourselves to the frequent administration of small amounts of liquid nourishment. As a rule, milk or mixtures of milk with coffee, tea or cocoa, and grits, rice, vegetable soups are borne best, strong irritants like alcohol, strong infusions of tea, coffee, or even concentrated bouillon are not borne at all. Solid food is to be introduced into the menu, very gradually, just as in other severe gastrointestinal infections. A very frequent symptom even during advanced convalescence is a marked distaste for meat. We can and must reckon on this, and limit the patient to a vegetable diet, as a matter of fact, this has recently been strongly recommended in anemic conditions. According to Musser this vegetable

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diet is the best means of combating the increased intestinal decomposition so that in some cases, we are perhaps actually administering a casual therapy. The most important prescription regarding the general management of living, is complete rest. In severe stages of the disease the patient is constrained to avoid every effort, on account of his intense muscular weakness, but with improvement, like convalescents generally, he readily overestimates his strength, even during remissions he should confine his exertions within the limit of fatigue.

The same advice of rest is applicable to intellectual work, moreover, every mental excitement must as far as possible be eschewed. These patients possess very slight power of resistance to extremes of temperature and must be protected by special room temperatures, or corresponding clothing. A climatic treatment may be considered in the case of more resistant patients.

The present day active treatment of pernicious anemia seems to be gradually falling under the domain of surgery, how long it will remain so I am not able to say. But beyond a question of a doubt, the best tonic that can be administered to these patients in almost any stage, is blood transfusion, preferably whole blood. I have seen a patient in complete collapse, vomiting incessantly, delirious, and when brought to the operating room for transfusion looked as though he might die any minute, and after receiving 800 cc. of whole blood, rapidly recover from all extreme symptoms, have a remission established and live for eight months in comparative comfort, of course such results do not happen in all cases, I simply mention this one to illustrate what may be accomplished by blood transfusion. Dr. N. M. Percy, of Chicago, whose work on this disease covers a wider field than any other man has carried out his treatments along the lines of Hunter's views, namely the infective origin of pernicious anemia, has found evidence of infective foci in 95 per cent of cases examined. In a series of nine operations for pernicious anemia specimens removed, spleen, gall-bladder, appendix, were sent at once for pathological examinations. Bacteria were grown from three of the nine spleens, from four of the seven gall-bladders, and from six of the seven appendices. The only case not giving a bacterial growth was one in which pyorrhea had long been present. The chief organism found was the hæmolytic streptococcus, and this organism was present in seven cases, in five the *baccillus coli* was found in four, streptococcus viridens.

In another series of twenty-four cases pre-

ceding the nine just mentioned, Percy records the following gross lesions.

In twenty there was chronic cholecystitis with or without gall-stones, in seventeen of these, there was evidence of old disease of the appendix, in six there were infected foci in connection with the teeth, and one in connection with the tonsils.

Sir Berkely Moynihan, British Medical Journal of January, 1921, in his paper on the Surgery of the Spleen states, if the disease, pernicious anemia, is primarily a hemolytic process, a process in which red cells destruction is the outstanding feature, what is the nature of destruction and whence does it come?

Hemolysis of definite origin are known, in the hemolytic anemia of pregnancy a definite hemolysin has been found in the placenta. In the anemia due to bothriocephalus, cholesterase is set free by the decomposing segments of the worm, affords the poison for the red cells, though every harbinger of this parasite, is not equally susceptible to the action of this substance. In some forms of cancer, especially of the stomach and ascending colon, poison appears to be liberated which causes a blood picture hardly distinguishable from that of pernicious anemia.

Chronic carbon monoxide poisoning among charcoal workers, industrial lead, and perhaps arsenic poisoning appears to operate in the same manner. It is suggested that hemolytic substance formed by pathological bacteria in the intestines may gain egress by this route, as first suggested by Hunter. J. H. King, after careful study of three cases of pernicious anemia treated by splenectomy, and after conducting a series of experiments upon dogs, concludes that in pernicious anemia, hemolytic jaundice, and cirrhosis of the liver, the hyperactive spleen unfavorably influences anemia through its regulation of the highly hemolytic unsaturated fatty acid of the blood. The removal of the spleen therefore appears to be indicated. Splenectomy itself, besides influencing the production of hemolytic unsaturated fatty acids, raises the percentage of anti-hemolytic substance in the blood, that is, the total fats and cholesterines. Dr. N. M. Percy of Chicago outlines his method of treating pernicious anemia as follows:

1. An attempt to stimulate the process of new blood, by massive step ladder transfusion of whole blood.

2. An attempt to overcome the absorption of hemolytic bacteria or their toxins, by radical removal of local foci of infection.

3. An attempt to protect the newly formed older red cells by removing the spleen. By the

step ladder transfusion the red blood count is increased, often doubling the former count, the hemoglobin rises, the platelets and blast cells become more numerous, and Howell's particles will sometimes appear in the blood, indicating a stimulation of the bone marrow.

The general condition of the patient improves, the appetite is restored at once, the sore mouth disappears and sleep returns. So I will ask under what other palliative treatment could this condition be brought about.

Next, the matter of clearing up the different foci of infection; the teeth, the accessory sinuses or any other foci that may be present, after these have been eradicated to the satisfaction of the different specialists and the benefit of the patient, the spleen is removed and with it the gall-bladder and appendix if these are thought to contain pathology. In Dr. Percy's report, based on seventy-seven laparotomies performed by him, the spleen, gall-bladder, and appendix were removed in fifty-four cases. The spleen and gall-bladder in eleven, the gall-bladder and appendix in four. The spleen alone in four, there were eight deaths. In seventy-four of these patients one or more transfusions had been performed before operation. In four, transfusion was undertaken immediately after operation. In ten cases a later transfusion was performed. Of the sixty-nine cases that left the hospital five had recurrence of symptoms at the end of four months, and died at intervals of eight to twelve months. Ten had recurrence at the end of six to eight months and followed about the same course. Forty-eight were in good condition at the end of twelve months, of these twelve are alive at the end of two years, nine at the end of three years, four at the end of four years, five living nearly five years after operation, and one a little over six years, the one living six years has had no transfusion since operation. Two of the four year cases have been back for transfusion as have also four of the three year cases, five of the two year cases and eight of the one year cases. The progress of the four cases in which gall-bladder and appendix were removed without the spleen was not so good in any instance, as was the average of the other cases. The spleen was not removed in these patients because it was not enlarged, and there were no adhesions to indicate that there had been a splenitis or perisplenitis.

Percy goes on to state that evidently some of his patients should not have been operated upon, as undoubtedly just as good or better results would have followed transfusion alone, meaning of course patients who had advanced so far that

secondary changes had already taken place in the cord and bone marrow.

The Mayo Clinic reports on pernicious anemia cases in which splenectomy was performed up to September 20, 1920, the following results. There were fifty-three cases with three deaths, a mortality of 5.6 per cent, five patients were living between four and five years after operation, eleven patients were living between three and four years after operation, 22 per cent of the patients lived two and one-half times longer than the average pernicious anemia patient lives.

To sum up. It is not claimed that splenectomy has cured any patient of pernicious anemia. The operation is done with a low mortality. A majority of the patients show improvement and a prolongation of life in greater comfort. One quarter of the patients are greatly improved, living happier and more useful lives, prolonged from two to three years. One-half of the patients are improved in some degree, they feel better, sleep better, and live perhaps a few months or a couple of years longer than the average, the remaining one-fourth of cases do not receive any greater help than that which could be derived from careful medical treatment, which may include blood transfusion, and the treatment of such foci of infection, as can be found in the mouth, nose and accessory sinuses.

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#### PERNICIOUS ANEMIA: A STUDY OF ONE HUNDRED AND TWENTY-SEVEN CASES\*

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F. J. ROHNER, M.D., Iowa City

This paper is a study of one hundred and sixty-nine admissions, representing one hundred and twenty-seven separate cases diagnosed as pernicious anemia, admitted to the State University Hospital, from July 1, 1910 to July 1, 1920. This group comprises eleven hundredths per cent of the total number of admissions to the medical service during that period. It has been the aim in this study, first to devise some definite method of grouping our cases, and secondly, to try and determine the relative value of the various factors, that enter into the diagnosis of pernicious anemia.

Sex—There were seventy-seven males, and fifty females.

Age—There was one case in the first decade, four in the third, eighteen in the fourth, twenty-three in the fifth, fifty-four in the sixth, twenty-

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seven in the seventh, and one in the eighth. Ninety-eight per cent were between the ages of thirty and seventy, forty-two and five-tenths per cent were in the sixth decade. The case in the first decade was undoubtedly one of aplastic anemia. Of the four cases in the third decade, two were in males, and two, in females; autopsy proved the correctness of the diagnosis in one, one has not been heard from. Of the two females, in each the anemia developed during pregnancy; each had a relapse in a subsequent pregnancy. Both are alive, four and five years respectively, after leaving the hospital.

**Family History**—Nine cases gave a positive family history. Six of the cases were definite cases themselves, three were doubtful cases. We had in the hospital, at the same time, a brother and sister with pernicious anemia (both now dead); another sister had died of the same disease, and the mother was supposed to have died of locomotor ataxia, more likely, subacute combined sclerosis; a possibility of four cases in one family.

**Autopsies**—Sixteen cases died while in the hospital, and eleven come to autopsy. The diagnosis was confirmed in ten. One case proved to be a carcinoma of the stomach.

**Classification of Cases**—For the purpose of classification, our cases were divided on a percentage basis; into three groups, depending upon the presence or absence of what might be considered ten cardinal points. These points were selected after a review of Cabot's article in Osler's System, Minot's in the Oxford Medical Series, and Woltman's article in the collected papers of the Mayo Clinic, 1918. The following points were chosen:

CHART I

	Per cent
1. Remissions .....	10
2. Paraesthesiae .....	10
3. Glossitis .....	10
4. Cord signs .....	10
5. Color index 1 +.....	10
6. R. B. C. 2.5 mil. or less.....	10
7. Leucopenia .....	10
8. Abnormal R. B. C.....	10
9. Achlorhydria .....	10
10. Urobilin and Urobilinogen in xs.....	10
Total.....	100

CHART II

## Group I. 70 to 100%—85 Cases

	1 yr.	2 yr.	3 yr.	4 yr.	5 yr.	Tl.
Dead.....	37	10	7	1	1	56
Alive.....	6	8	4	2	0	20
Not heard from.....						9

## Group II. 40 to 70%—32 Cases

	1 yr.	2 yr.	3 yr.	4 yr.	5 yr.	Tl.
Dead.....	5	0	1	0	0	6
Alive.....	8	5	3	2	4	22
Not heard from.....						4

## Group III. 20 to 40%—10 Cases

	1 yr.	2 yr.	3 yr.	4 yr.	5 yr.	Tl.
Dead.....	0	0	0	0	0	0
Alive.....	4	0	2	0	0	6
Not heard from.....						4

CHART III

## P. A. &amp; S. A. C.—34 Cases

	1 yr.	2 yr.	3 yr.	4 yr.	5 yr.	Tl.
Dead.....	14	4	0	3	1	22
Alive.....	6	0	1	0	0	7
Not heard from.....	5					5

The first two points were selected from the history; points three and four from the physical examination; points five, six, seven and eight, from the blood findings; point nine, from examination of the gastric contents, and point ten, from the examination of the urine and stools, for evidence of increased excretion of urobilin, and urobilinogen. The ten points were arbitrarily allowed a value of 10 per cent each. In cases where all ten points were not recorded, those which were recorded were given a relatively higher percentage.

Cases ranging between 70 and 100 per cent were considered definite cases; cases between 40 and 70 per cent as doubtful, and cases below 40 per cent as very doubtful cases. There were eighty-five cases in the first group; thirty-two cases in the second group; and ten cases in the third group. Through correspondence, or otherwise, all but seventeen cases were heard from within the past month. Chart No. II records for each group; the number dead, the number alive, and the duration of the disease, after the cases were first seen.

**Group I.** Of the fifty-six dead, ten came to autopsy, and the correctness of the diagnosis verified in each. Of the others that are dead, in at least one, the diagnosis may have been wrong. The family physician writes that the patient died with all the symptoms of carcinoma of the liver. No autopsy was obtained. It might be well to mention here, that in our series, twenty cases had palpable spleens. All belonged to this group.

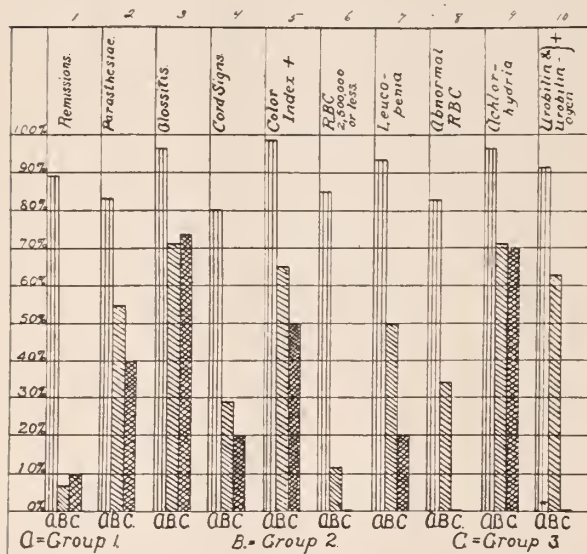
**Group II.** Of the six dead, mention should be made of three. One died with a post-operative pneumonia, one died of carcinoma of the stomach, and one died following an exploratory operation, in which a tumor of the bowel (possibly malignant) was discovered. Among those still

alive, two were anemias of pregnancy—previously referred to; one case was subsequently proven to be a carcinoma of the sigmoid, one case proved to be a case of syphilis, (now well five years later without a relapse), one case considers herself well, five years after leaving the hospital, and three years after a hysterectomy. Of the other cases, possibly time will reveal the correctness or incorrectness of the diagnosis; although to date, none give definite histories of relapses or remissions.

Group III. The replies to inquiries received from six, leads one to suspect the diagnoses were incorrect. One case now alive, four years since his first admission, was again studied within the past three weeks and he again falls in this group.

Chart III tabulates our cases that were given the double diagnosis of pernicious anemia and subacute combined sclerosis of the spinal cord. In this series, were included those cases in which the symptomatology, and physical findings were referable chiefly to the nervous system. Of these cases twenty-five belonged to Group I and six to Group II.

CHART IV



Relative Value of the Various Diagnostic Factors.—A study of Chart No. IV shows that points one, four, six, seven and eight are of more positive value than are points two, three, five, nine and ten. In other words, the history of remissions, the evidence of postero-lateral cord involvement, an anemia of two and five-tenths million or less, a leucopenia and abnormalities in the size, shape and staining reaction of the red blood cells, are of decidedly more importance than are the history of parasthesiae, the suggestive tongue, the plus color index, the absence of free hydro-

chloric acid in the gastric contents, and the presence of an excessive excretion of urobilin and urobilinogen. Column A indicates Group I, Column B, Group II, and Column C, Group III. It might be well to consider each point individually.

1. Remissions—In Group I, there were but nine cases that lacked this point, eight of these were cases with marked postero-lateral cord involvement. These patients do not recognize readily their blood remissions. The ninth case, according to the report of the family physician, died with all the symptoms of carcinoma of the liver.

2. Parasthesiae are admitted too commonly in other conditions to be taken as characteristics of pernicious anemia, although most cases of pernicious anemia, complain of them at one time or another.

3. Glossitis—Under glossitis were included those cases who presented to a greater or less degree, a clean, glazed, fissured tongue. It should be considered of negative value only. A dirty or coated tongue is against the diagnosis of pernicious anemia.

4. Cord signs included diminution or loss of the vibratory sense; two point discrimination sense of position, or other sensations; ataxia, or the Babinski toe phenomena. Eighty per cent of pernicious anemia patients show some evidence of postero-lateral cord involvement.

5. Color—The color index was plus in too many of our doubtful cases. Until a more accurate and practical instrument is devised to determine the hemoglobin percentage, too much importance should not be attached to a plus color index unless the same is decidedly plus, one and two-tenths or better.

6. Red cells of two and five-tenths million or less: Cases seldom come to a hospital with the symptomatology of pernicious anemia, weakness, dyspnoea, pallor, and associated symptoms with a red cell count below two and five-tenths million, unless their initial symptoms are of neurological character.

7. Leucopenia is so constant in pernicious anemia, one should regard with suspicion any case with a leucocytosis.

8. Abnormal red cells—Our cases especially Group II show too high a percentage of abnormal red blood cells. Too few of our reports refer to the type of abnormal red blood cells, present. Minot considers as almost diagnostic large oval macrocytes or megalocytes which are often polychromatophilic.

9. Achylia—So frequently is free hydrochloric



acid found absent in the Ewald test meal, in other conditions, that its absence should be considered only of negative value. If free hydrochloric acid is found one should doubt the possibility of pernicious anemia. Minot says, "the absence of free hydrochloric acid, may precede the other evidences of pernicious anemia by years." Of our cases, there were two in Group I, who did have free HCl. present, one is still alive after two years, the other has not been heard from. There were eight cases in Group II and III, five are still alive, two not heard from and one dead. The one that died, had a red count of over four million, a leucocytosis, a negative blood smear, and a coated tongue. He died within one month after leaving hospital.

10. Urobilin and Urobilinogen—These two substances in excess in the urine and stools, are found in any hemolytic process, certain diseases of the liver, and cardiac decompensation. If not found in excess, in a suspected case, it is evidence against the diagnosis of pernicious anemia.

#### SUMMARY

1. Our cases of pernicious anemia were divided into three groups: definite, doubtful, and very doubtful cases. The cases were classified on a percentage basis, allowing a value of 10 per cent to each of ten so-called diagnostic points. Of Group I or the definite group, fifty-six of the eighty-five cases are dead, twenty are alive, nine have not been heard from. Of those dead, ten were autopsied, the diagnosis was verified in all. Of those that died after leaving the hospital, in but one does the diagnosis seem questionable. Of those alive, that have been heard from, nothing in the replies to inquiry, would lead one to suspicion the diagnosis. Of those in Groups II and III, forty-two cases in all, six are dead, twenty-eight are alive and eight are not heard from. Of the six dead, three were known to have died from other courses. Of the twenty-eight alive, that have been heard from, five have been fairly well proven to have been mistakes in diagnosis. The absence of a subsequent history of relapse or remission in any of the others leave those cases still in doubt.

2. Of the diagnostic points chosen five are considered of distinct positive evidence, and five contribute greatly to the diagnosis of pernicious anemia because of their negative evidence. Of positive value are: (a) history of remissions, (b) evidence of postero-lateral cord involvement, (c) a red blood cell count below two and one-half million, (d) a leucopenia, (e) abnormality of the red blood cells. Of the negative points, that is:

factors that are against the diagnosis of pernicious anemia if absent are: (a) history of parasthesiæ, (b) glossitis, (c) a plus color index, (d) absence of free hydrochloric acid in the Ewald test meal, and (e) the abnormal excretion of urobilin and urobilinogen.

#### Discussion of Papers of Drs. McLaughlin and Rohner

Dr. Walter L. Bierring, Des Moines—I will ask the indulgence of the chair to permit the presentation of a patient who illustrates an unusually long remission. His present age is fifty-two years, by occupation a farmer. In this case the diagnosis of pernicious anemia was made in 1915. The patient's first blood count was 1,450,000 red cells, 3800 leucocytes—polymorphonuclears 42 per cent, lymphocytes 58 per cent, hemoglobin (Sahli) 56 per cent. After a series of examinations covering a period of thirty days he had his first blood transfusion, and during the next four months two more transfusions were given. In the following year his red cell count, having previously gone up to nearly 3,000,000, again dropped to 1,800,000. Then in 1918 the count began to rise and it has so continued, and today the blood examination shows hemoglobin 80 per cent, red cells 4,790,000, leucocytes 7800, with a polymorphonuclear percentage of 74, so that the blood count indicates a distinct remission of improvement even to the point of a better proportion of the white cells than in the original and more characteristic count. This man farms 160 acres of land, and during the last two years has done most of the work himself. Besides the three transfusions he has had some arsenic treatment, mostly in the shape of Fowler's solution. In the past three years he has had practically no treatment and has not been here for any examination. At present he has an excellent appetite, and no apparent digestive disturbance, so it is fair to assume that he has an adequate gastric secretion. He illustrates a rather unusual remission of long standing. I also wish to present a gentleman whose history extends over a period one year longer, having had his first diagnosis made seven years ago. He came under our observation less than six years ago, when his red cells were below one and one-half million, with the characteristic leucopenia and other phenomena of pernicious anemia. He was treated for symptoms of colitis, mainly by means of a carefully arranged diet, and remained a long time in the hospital, during which time there was a gradual improvement in the anemia condition. During the last four years he has had no treatment for his anemia. Transfusions were not given. He has continued his work as a minister and at present is on duty for full time. His blood today shows a hemoglobin of 85 per cent, red cells 4,550,000, with 6600 white cells, of which 72 per cent are the polymorphonuclear type. His present healthy appearance is a further illustration of a rather remarkable remission of improvement. In the excellent papers that have been presented in this symposium, the importance of a re-

mission in diagnosis has been emphasized. I think we might go still farther and refer to the wave-like remissions that occur in a series of blood counts. As we examine them several times a week or from one week to the next there is a distinct wave-like curve that is particularly characteristic of pernicious anemia and may frequently distinguish it from the severe anemias of the secondary type. As regards the etiology of pernicious anemia special reference has been given by Dr. McLaughlin to the many contributory causes, and it must be admitted that their frequent definite association with this condition warrants considering them as distinct contributing factors. There are really only three well known causes of pernicious anemia, these being the broad tapeworm, pregnancy, and occasionally syphilis. In our analysis of the improvement observed with different forms of therapy, one should take into consideration those cases in which there is a definite etiology, and those in which the etiology is not so well defined. In the cases due to the *bothriocephalus latus*, the patient naturally recovers when proper treatment is instituted for the removal of the parasite. Prognosis in the pernicious anemia of pregnancy is always better than in any other form, and the remissions are often permanent, or at least are maintained until the next puerperal period. In cases of pernicious anemia incident to pregnancy or the puerperal period, our conception of treatment and its results should be somewhat different from that in ordinary pernicious anemia. That such good results are often obtained with arsenical treatment may be distinctly in favor of the spirochetal origin of pernicious anemia. As regards the treatment of pernicious anemia, aside from the systematic supervision of diet and general hygienic care, so carefully considered in one of the papers, I think we may safely say that there are only two recognized treatments for this condition, viz: 1. Arsenic, which can be used either in the form of Fowler's solution, cacodylate of sodium, or some preparation of salvarsan. 2. Frequent blood transfusions. I question very much whether in typical pernicious anemia splenectomy has any real value. As regards the benefit of transfusions, I think it again should be emphasized that transfusions are of little value, or at least very unsatisfactory, where symptoms of spinal cord involvement are present. Also in the very low counts, below a million red cells, I question very much whether transfusion is always beneficial. The throwing into the circulation of a large amount of good red blood where the factors of safety and resistance are low, may produce a condition which frequently will be worse than the state before. It seems to me that we should entertain a different conception of this condition than we have at present. We have studied it most faithfully not only from its etiologic and pathologic standpoints, but also in its many interesting clinical manifestations. I think we fail to recognize that when pernicious anemia comes to us and can be readily diagnosed, it is already a terminal condition. It should be considered in the same light as arterio-

sclerosis, chronic nephritis, and a variety of other chronic and terminal conditions. There should be a way by which we might recognize pernicious anemia before it has reached that stage of unusual exhaustion of the blood-making structures that is so resistant to treatment. In the careful routine examinations of blood that are now made, in all such examinations there comes a time when these early and suggestive changes in the blood can be recognized, and by a careful search for the causes of these blood changes, possibly by removing foci of infection or to improve the diet and general mode of living, it may be possible to prevent the development of pernicious anemia. At least we should assume the attitude that it is a preventable condition, and thus give to the entire problem a more encouraging aspect.

**Dr. W. E. Sanders, Des Moines**—There is just one phase of this subject that I wish to graphically bring before you, because we are frequently confronted with the problem of splenectomy in the treatment of pernicious anemia. I have been interested in hearing the excellent papers that have been presented here today, and have likewise been interested in reviewing the literature as to the results which seem to follow the different therapeutic measures to which we have access for the treatment of pernicious anemia. A therapeutic measure, in order to command our attention and confidence, should prolong the life of the individual, make him more comfortable, or contribute to his earning capacity. If we have any special procedure or measure which will do that, it is worthy of our consideration. In 1913 the first splenectomy for pernicious anemia was done in Vienna. We are all hero worshipers and are very apt to do things that emanate from certain sources. It at once became the fad to do splenectomy in these cases. In 1915 I presented to this Society at its meeting in Waterloo, thirty-seven cases collected from the literature in which splenectomy had been done for pernicious anemia with an operative mortality of more than 20 per cent. In the paper presented by Dr. McLaughlin he has reviewed the literature and shown very excellent improvement in mortality for this operation. For the charts presented here I have taken 700 cases treated by the old medical method as tabulated by Cabot in Osler's *Modern Medicine* and fifty cases splenectomized in the Mayo Clinic, and constructed a curve showing the average annual mortality followed to their final outcome. In passing, it might be said that Dr. Cabot reports three cases out of a series of 1200, in which he believes he has permanently cured the patient. If you plot a curve showing the duration of the cases which have been treated medically and surgically as indicated by the red and blue lines, and the percentage of mortality which will follow each year, you will find a striking parallelism between the medical cases and the splenectomized cases from the Mayo Clinic. The series from the Mayo Clinic, consisted of fifty cases which had been splenectomized for over three years when this report was made, and the



average duration of the disease before splenectomy was about a year or something over a year. These cases were selected with a view to the most favorable results. Those with very pronounced cord lesions cases were selected with a view to the most favorable results. Those with very pronounced cord lesions were not operated, those which showed that they were getting worse were not operated. Most of these cases were transfused before the spleen was removed. At the end of one year 41 per cent of the 700 patients whose cases Cabot reports and followed to their termination, were dead, while of the fifty splenectomized patients 42 per cent were dead. At the end of two years, 64 per cent of the splenectomized cases of the Mayo Clinic were dead, and 62 per cent of the patients in Cabot's series were dead. At the end of three years, 78+ per cent of the splenectomized patients and 78 per cent of Cabot's patients, were dead. At the end of four years, 90 per cent of the splenectomized patients and 86+ per cent of Cabot's patients were dead. Now, if we draw a curve showing the annual mortality rate of the cases that were splenectomized, we find that the results were very striking in that the annual mortality rate is quite uniform. In the medical cases, the mortality ranges from 34.6 per cent to 48 per cent a year, while in the surgical cases the mortality rate ranges from 41 to 50 per cent a year. If you plot a composite curve for the mortality, the medical cases will show an average annual mortality rate of 41.15 per cent, and the splenectomized cases will show an average annual mortality of 44 per cent. So I am sure we shall be convinced that splenectomy is not indicated in pernicious anemia.

**Dr. George B. Crow, Burlington**—Dr. McLaughlin called attention to the association of hypochlorhydria in the second stage of the disease, but in referring to the dietetic treatment he did not mention the fact that the diet should be directed to the hypochlorhydria. It is a very common observation that these cases frequently develop diarrhoea of a putrefactive type, undoubtedly due to the absence of hydrochloric acid. Therefore, the administration of hydrochloric acid to these patients is advisable, and also in the presence of proteid putrefaction the administration of a diet poor in proteids is of considerable importance. In regard to the relation of hypochlorhydria to the cause of pernicious anemia, it has been observed for a good many years that the two were almost universally associated. Of how long standing the hypochlorhydria has been before the diagnosis of pernicious anemia is made, we do not know. I happen to have a case which came to me one year ago because of putrefactive diarrhoea, a very intelligent man who gave the history of being admitted to one of the leading hospitals of the East about twenty years ago because of digestive disturbances. He was told at that time that he had achylia gastrica. During the past twenty years he has had repeated attacks of diarrhoea, which he says, were similar to the one he had when he came to me. Of course, one case proves nothing, but I mention

it as a case of known achylia occurring twenty years before the diagnosis of pernicious anemia was made, and previous to this he had attacks of diarrhoea, presumably associated with achylia.

**Dr. McLaughlin**—From the statistics I have read and also from the statistics Dr. Sanders has given us, it would seem that splenectomy in pernicious anemia is not indicated. However, I have too much confidence in the report of such men as Dr. Percy and Dr. Moynihan of Leeds, England, and of observers at the Mayo Clinic, to feel that I can be dogmatic enough to say that splenectomy is not indicated when recommended by such high authorities. The great difficulty we find in the treatment of pernicious anemia is in early diagnosis. I now have under observation a man thirty-two years of age who has visited the Mayo Clinic three times for observation, his case was not diagnosed pernicious anemia by them. He has appeared at our laboratory for the last three years for diagnosis of his anemic condition, and it has not yet been diagnosed pernicious anemia. Still, he looks as if he had pernicious anemia, and I think that eventually this diagnosis will be made. There is so much variation in the general course and symptoms of these cases that I do not think any man is big enough to stand up and say positively in these doubtful cases whether they are, or they are not pernicious anemia, hence a delay in proper treatment. I did not say that splenectomy was a cure for pernicious anemia, although in my own experience, I know of several cases that have been greatly benefited; one in particular was brought to Dr. Percy from the Battle Creek Sanitarium on a cot, practically moribund. He received his stepladder transfusions, had a splenectomy, cholecystectomy, and an appendectomy, and lived in my neighborhood for six years afterwards, the greater part of that time in fairly good health with comparatively few transfusions, until near the termination of the case.

**Dr. Rohner**—Dr. Bierring spoke of three types of pernicious anemia in which we know the cause: Those associated with pregnancy, those due to syphilis, and those due to the bothriocephalus latus. They may be pernicious types of anemia, but are not primary anemias. This paper represents a study of primary anemias and not anemias of known cause.

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The National Society for the Study and Correction of Speech Disorder will hold its annual meeting as an allied association with the National Education Association, that meets in Boston from July 3 to July 7, 1922. The Society will meet every afternoon during the N. E. A. session. Each afternoon will be taken up with formal papers by officers and Massachusetts speech teachers. Then there will be ten five minute papers open to general discussion. There will be a demonstration with maps and charts showing the progress of the American Movement for Speech Correction from coast to coast.

THE CONTROL OF HEMORRHAGE IN  
THE TONSIL OPERATIONFRED W. BAILEY, M.S., M.D., F.A.C.S.,  
Cedar Rapids

A decade ago not a great deal of attention was given to the control of hemorrhage and the conservation of blood in the tonsil operation. This was prior to the perfection of the "suction ether vapor" apparatus. Before the application of this apparatus, if a general anesthetic was used, it was necessary that the patient be deeply anesthetized so that there might be as little gagging and vomiting as possible, and so as to lessen the chance of aspiration of blood, mucus, etc., into the trachea and lungs. The operation had necessarily to be hurried, a clear view of the field was not possible, and patients were sent from the operating room while still bleeding. It was not unusual, and in fact rather the rule, for the patient to spit and vomit blood for the first twelve to twenty-four hours after the operation. One often heard it remarked that "tonsil cases always bleed more or less" and that "it probably did no harm."

In local anesthesia then as it is now the rule was to use some sort of drug such as adrenalin combined with the local anesthetic to prevent bleeding at the time of the operation and trust to luck and providence that there would be no trouble due to reactionary hemorrhage after the tonsils were out, and the effect of the drug wore away.

Since the advent of the "ether suction" apparatus and since the gradual improvement of the tonsil operation technique, much more attention is given to the control of bleeding and the conservation of blood. In spite of this fact it seems to me that generally speaking, the average laryngologist is not nearly as careful of the loss of blood as he should be.

Removal of the tonsil is a common operative procedure. In fact the average eye, ear, nose and throat surgeon does perhaps five or more times as many tonsil operations as all of his other operations put together. I would venture to say in most hospitals there are more tonsil operations than any other single class of operations.

There are various and numerous methods devised and practiced for the removal of the tonsil. The aim of all are ultimately the same—that is—the complete removal of the tonsil with its so-called capsule from its bed, with as little traumatism of the adjacent tissue, and with as little

shock and discomfort to the patient as possible. It is a purely surgical procedure and should be treated as such. The operation leaves an open wound no matter what method of removal is employed. The wound is not only open but is movable. Every time the patient talks, swallows, vomits, coughs, etc., the wound moves and the tissues are put on tension.

Thus the open and movable tonsil wound cannot be treated as an ordinary closed surgical wound, but necessarily requires some method of treatment that no matter what may happen in the way of coughing, gagging, vomiting, etc., the wound remains safe from bleeding.

It can hardly be denied that the less blood a patient loses in any operation the better chance the patient has for a speedy recovery, and that the less blood he loses at the time of the operation the better he can withstand reactionary or secondary hemorrhages, should he be unfortunate enough to have this complication. It is also true that the more blood a patient loses the more delay there is in his coagulation time, and his vitality and vital resistance decreases with the amount of blood lost.

The tonsil operation is taken much more seriously today than it was a few years ago. It is an operation which people and also the laryngologist still often speak of too lightly. This idea is entirely wrong. The patient who has his tonsils removed suffers more pain and discomfort than the average case that is operated on for appendectomy. Of course there are exceptions in both cases, but I would venture to say this is the rule. A great deal has been said and written on the tonsil question and at first thought the subject seems to be overdone, but nevertheless there is still much to be learned about the tonsil operation and its various phases.

The blood supply of the tonsil is generally quite well known. All the arteries supplying it come either directly or indirectly from the external carotid. They pierce the so-called capsule of the tonsil and enter its substance. Thus when the tonsil is removed from its bed the arteries and vessels must be cut or severed according to the method used in the enucleation. Wherever there is a vessel cut or severed there is a point which may bleed.

In the year 1914 I encountered a rather severe tonsil hemorrhage at the time of operation, which was finally controlled with considerable difficulty by suturing the bleeding point, using a small curved needle, fine plain cat gut and an ordinary needle holder. After this experience I began at once to search for a method of controlling hemor-

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rhage which would conserve all the blood possible at the time of the operation and would be effective in case of reactionary or secondary hemorrhage. I tried pressure alone, and combined with various chemicals such as adrenalin, tincture of iron, iodine and alcohol and others. I tried grasping the bleeding point with a hemostat allowing the hemostat to remain a few minutes. I tried picking up the bleeding point and then crushing the tissue with an angiotribe. I also tried coagulose locally. I then tried suturing the bleeding points in all cases.

This last procedure has proven the most satisfactory, both as to controlling the hemorrhage, the conservation of blood, a minimum traumatism to the tissues and a minimum discomfort to the patient. It also gave a clearer looking throat after the operation and the healing time was considerably shortened.

The method used in suturing the bleeding points is a slight modification of the one devised by Davis. I use an extra long Elliott's pick up to grasp the bleeding point and pass a suture of No. 0 plain cat gut on each side of the vessel and then tie not very tight. I use an Ingersol tonsil needle not too sharp. I have never found a bleeding point in any tonsil fossa which could not be readily reached and ligated with this needle. There are many needles devised for this purpose, I have devised some myself. Some are made with right angle points and made for right and left side. I have tried many of them but the Ingersol has proven most satisfactory.

I have now a record of a series of 3025 tonsil operations in which the bleeding points were controlled at the time of the operation by the suture method. In this series of cases I have had forty reactionary hemorrhages—or one in about every seventy-five cases, and three secondary hemorrhages, or about one in a 1000. In the case of reactionary or secondary hemorrhage, the patient was taken to the operating room and with a light anesthetic the bleeding points were found and sutured.

I think as a rule, reactionary hemorrhages in my cases were due mostly to carelessness and haste in not making sure the bleeding was stopped entirely before the patient was sent from the operation, or from using cat gut which was too large and became untied, when the patient gagged. Some cases were evidently due to the fact that the suture did not pass around the vessel, but to one side of it, and thus exerted enough pressure to stop the bleeding for a little time.

Wondering just what other laryngologists in the country were doing along the line of the con-

trol of hemorrhage in the tonsil operation, I sent out the following questionnaire to 400 laryngologists, all members of the American College of Surgeons:

1. How do you control hemorrhage, either severe or ordinary, at the time of operation?
2. Do you do a coagulation test before operation in any or all cases?
3. How do you control post-operative hemorrhage?
4. Have you ever had a patient die from hemorrhage following tonsil operation?

To this questionnaire I received, up to the time of writing this paper, 350 replies. I have gone over the answers very carefully and have classified the replies as given below. The number after each method mentioned, indicates the number of times that certain method was mentioned.

Answers to question number one (How do you control hemorrhage, either severe or ordinary, at the time of operation?), elicited the following replies. The numbers indicate the number of times the method was mentioned. Pressure, 217; hemostats, 117; ligature, 129; sutures, 46; suture pillars, 46; thermoplastation, 41; suture sponge in fossa, 18; coagulose, 20; tannic acid, 10; morphine, 19; petuturin, 4; vaseline sponges, 3; electric cantury, 3; turpentine, 2; peroxide of hydrogen, 9; powdered alum, 3; iodine tincture, 5; Michels clips, 7; adrenalin, 17; silver nitrate solution, 4; tincture of benzoin, 5; Monsel's solution, 5; hot saline, 2; tonsil clamps, 8; acetanalid and alcohol, 50 per cent; bismuth, ergot, alcohol, zinc sulphate, gelatine, permanganate of potash solution, neosalvarsan, mercury, lemon juice, rabbit serum, hemostats left on bleeding points one to twelve hours, holding enucleated tonsil in fossa for few minutes, injecting two or three tonsil syringes of pure hydrogen peroxide in post-nasal space, and finally, scraping tonsil fossa with finger nail left sharp for that purpose. In addition to this, eight replied that they did not attempt to control hemorrhage and ten reported that they never had any hemorrhage. Eight used pressure only; thirty used ligatures and twenty-seven used sutures as a routine procedure.

The fact that forty methods of controlling hemorrhage resulting from the removal of the tonsils, are used by only 350 operators leads one to conclude that this phase of the operation is a long way from being standardized. There seems however to be a tendency to ligation and suture, but most of the operators appear to be quite well satisfied with their own methods.

Crushing the base of the fossa certainly causes undue traumatism. Suturing the pillars or su-

turing a sponge in the tonsillar fossa, must subject the patient to most undue discomfort, when attempting to swallow or when vomiting or gagging. Styptics cause undue sloughing and increase the probability of secondary hemorrhage; ligatures, although effective at the time of application are likely and in fact very often slip off when the patient swallows, etc. A suture properly applied cannot slip off, causes little or no extra discomfort, is absolutely effective and certainly more scientific than any of the other methods mentioned.

Answers to question number two (Do you do a coagulation test before operation in any or all cases?), brought the following replies: Always use the coagulation test, 75; never use the coagulation test, 60; sometimes use the coagulation test, 215. The general opinion seemed to be that the coagulation test as a routine, might be of value to the laboratory findings in the case in question, but that a careful family history of the patient was much more important than a coagulation test. True hemophilia is rare, but must always be considered; anemic patients are more apt to bleed than those who are full blooded and plethoric. Patients do not bleed as a rule because the blood does not clot, but because the end of the vessel remains open.

Answers to question number three (How do you control post-operative hemorrhages?), shows that the secondary hemorrhage is rather rare and when it does occur is not very severe. It is often confused with reactionary hemorrhage. Secondary hemorrhage was reported to have occurred as late as twenty-one days after the removal and there were four cases of ligature of the common carotid to control this class of hemorrhages reported.

Answers to question number four (Have you ever had a patient die from hemorrhage following a tonsil operation?), revealed the fact that out of 350 operators, 27 report a death from hemorrhage following the removal of the tonsils. This means that out of 350 operators one in every 13 has had a death from hemorrhage. It is true, that these operators reported all the way from 500 to 20,000 tonsil operations each, and consequently, the ratio of death from hemorrhage to the number of operations performed is small indeed. But when one thinks how often he himself performs this operation and that as mentioned above, one operator in thirteen has had a death from hemorrhage, it comes pretty close home after all.

In conclusion, will say that it seems to me that death following hemorrhages from tonsil

operations seems inexcusable, and is probably due not only to the fact that the hemorrhage was not stopped, but to the fact that the nurse who was in charge failed to notice that the patient was bleeding. A patient, especially a child, will often lie on its back and swallow blood and get almost exsanguinated before it is noticed that the child is bleeding. Patients, especially children, should always be turned on their stomach until there is reason to believe that there is no hemorrhage. Often a life might have been saved if this simple procedure had been followed out.

Acknowledgments are due to all the doctors who so carefully and promptly filled in and returned the questionnaire, and to Dr. J. E. Stansbury, who so carefully and painstakingly recorded my series of cases.

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### SOME DETERMINING FACTORS IN NASAL SINUS DISEASES\*

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It is not my intention to present in orderly and scientific array the indications pro and con of nasal accessory sinus diseases, but simply notations that have come to my mind in the routine examination of patients suspected of having such diseases, or in those presenting clinical evidence of the same. The paths of scientific study should always converge to the point of practical application for the relief of the patient. It is what we do or do not do for our patients that is really the all-important question.

I do not know whether it is a sign of premature senility, but I confess to a mythical companion and patient, whom I may call Smith who keeps me company in my reading. Smith accepts any pathology with which I may wish to inflict upon him, permits any operation even with fatal termination only to represent himself again and again as a willing victim. This little game of visualizing one's reading and then placing the conclusions reached by the side of the actual patient is really of considerable practical help.

The treatment of accessory sinus diseases, I am sure, is to many of us far from satisfactory, and the end results often disappointing. Here I am reminded that my patient Smith, who is really a very intelligent fellow, is constantly repeating two statements; first, "Doctor, put yourself in my place and if what you propose to do is what

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you would have done, then go ahead;" and secondly, "Doctor, I am complaining of certain symptoms. What I want is relief from these symptoms, and I am not particularly interested in the architectural contour of my nasal cavities after operation. Kindly limit your operative procedure to the extent of incomplete relief necessitating a second operation as against doing your work so thoroughly and extensively that I may find myself relieved of present complaints, but suffering from other equally unpleasant symptoms from which there is no relief."

There is, and should be, a sane pathway between the so-called "nibbling" rhinologist and the ultra radical enthusiast.

The roll of accessory sinuses as foci of distant infections has immensely increased their importance and likewise our responsibilities. In acute cases our problem is certainly one of drainage with which we should be content, and I believe the problem of drainage is far more important in chronic cases than many operators will concede. Absence of headache means nothing, but its presence with other symptoms is important. Irregular periodicity, increase in certain postures and definite location of a head pain as distinguished from a headache, brings sinus disease to one's mind together with the fact that the location of this head pain does not of necessity have to be located in the immediate neighborhood of the sinus involved.

Tenderness is not of much value as a guide, except as perhaps, in the case of the frontals, and then it is the comparative tenderness of one side to the other that is important.

Absence of pus in the nasal chambers means nothing, and its presence as an indicator of sinus disease attains its greatest value when it reappears at the same spot shortly after having been removed. It does not indicate the pathology present and in character only partially aids us in estimating the ability of the sinuses to drain themselves. Skillern states that cacosmia when present is almost pathognomonic of accessory sinus disease. Symptoms, however, entirely subjective must be received with some reservations.

Changes in the nasal mucosa are important. In the acute cases they are more general while in the chronic cases hypertrophies are generally near where the exudate first makes its appearance. Variations in the septum, however, may have brought about changes prior to the contracting of accessory sinus disease so that the picture is materially changed in the chronic cases.

In considering the presence of polypi, one does not necessarily have to debate the question as to

whether polypi precede or are a sequence of bone disease. There is, of course, no question as to the desirability of eradicating diseased tissue in the neighborhood of the origin of the polyps, yet in the presence of polypoid degeneration conserve all the normal tissue possible. The large solitary choanal polyp we can well afford to treat most conservatively, that is pulling out by the snare and without other clinical evidence of sinus disease simply await developments. Sub-acute laryngitis and pharyngitis, bronchial symptoms and asthma always demand careful sinus investigation.

The importance of the accessory sinuses in children has again been most forcibly brought to our attention by the work performed under the direction of Dr. Dean in his department at the State University, working in conjunction with the department of pediatrics.

There is the personal equation to be considered. Symptoms that in one individual justify operative measures would not be justified in another to whom these symptoms cause very little annoyance. Change of climate no doubt often causes an entire disappearance of symptoms and clinical evidence of chronic sinusitis. The influence of climatic conditions is further substantiated by the fact that rhinologists working in a high and dry altitude report the relief from operative measures to be more permanent.

I assume without going into details that our routine examinations are very similar. These include, of course, the principal and secondary complaints of the patient, previous general health, the presence or absence of fever, and an accompanying eye examination. A differential blood count and Wassermann is desirable in all chronic cases.

The size of the air passages is to be kept in mind, and the position of the nasal septum if too often disregarded in the presence of clinical evidence of sinusitis.

The use of the trans-illuminator has a definite place and as regards type I have found after trying many that the small ophthalmoscopic lamp is as satisfactory as any. Its use is, of course, limited to the frontals and the antra, the latter by the Briggs method, and the findings of value only in comparing one side with the other.

I do enter the adult antrum of Highmore with a trocar without previous radiographic study but do not feel that other operative investigations are so justified. While the roentgenograph does not tell us the pathology present it enlightens us as to anatomy and the presence of an abnormal condition of the interior of the sinus cavity. By it we

can generally establish the absence of a frontal sinus. To me it has been most unsatisfactory in posterior ethmoiditis. Unusually clear ethmoids do not signify absence of pathology, but may mean reabsorption of bone and a thinning of membranes in an old chronic ethmoiditis. Radiographs from but one angle are incomplete in the information imparted and the more general use of stereoscopic negatives will enhance the value of x-ray findings.

Returning to the localization of pus after transillumination and radiographic examination, I have by preference, been using a sharp Pierce trocar instead of the diagnostic needle in the maxillary antrum. Absence of return flow may mean the end of the trocar against the antrum wall; secondly, the presence of polypoid growths within the cavity or, thirdly a blocking of the natural ostium or ostea. It arouses our suspicions as to antrum disease but does not establish the same. The return of pus means antrum disease or the antrum acting as a receptacle for pus from some of the upper sinuses. Irrigation of the antrum is often misleading. The return of a clear fluid does not mean the absence of pus or after pus has been returned the appearance of clear fluid does not mean that there is no pus left in the antrum. I have found that after the above test that by connecting the canula with a small 5 c.c. syringe and then aspirating that one can frequently obtain pus from the cavity.

The sense of touch as transmitted from the end of a canula or large silver probe is of value in giving some idea as to the character of the lining membrane. Pus in the middle meatus an hour after thorough cleansing the antrum gives fair assurance of involvement of some of the upper sinuses. Packing off of the upper sinuses and then finding pus in the antrum has been unsatisfactory to me as positive indication of antrum disease. Pus in the antrum demands radiographic study of the teeth. Whether in antrum disease apical abscesses and periostitis are secondary to the antrum disease or vice versa need not concern us. I believe the fact remains of their association and of the relief afforded the antrum by their removal and that often in spite of antrum operation relief will not be obtained until the affected teeth have been removed. Antrum disease demands drainage more than anything else.

Sounding of the frontal sinuses is very often unsatisfactory, even after infracting the middle turbinate. The existence of frontal sinus disease without that of the anterior ethmoidal cells is a rarity, and its establishment by means of a plug in the hiatus has been to me practically a failure.

The use of the naso-pharyngoscope I have limited to investigating the sphenoidal ostia and the posterior ethmoidal cells. Diagnosing sphenoiditis by this means, simply from the presence of some slightly engorged vessels in the neighborhood of the ostia has been unsatisfactory, and in the presence of pus the differentiation between sphenoiditis and posterior ethmoiditis has been practically impossible. It does establish the fact of disease of the two cavities and since they are both generally involved, our course is not materially affected once infection in this locality is established. Irrigation of the sphenoidal sinus prior to any operative measures I have found often to be impossible on account of anatomical variations.

When these cavities, so often disregard any anatomical standard, it is impossible to state standard rules as to procedure, but we all have in our own minds certain flexible rules which we individually follow with our patients, and a discussion of those is the only justification for this paper.

Let us presume that our hypothetical Mr. Smith presents himself following an acute coryza of some days previous, complaining of pain of a type rather characteristic of sinus involvement. He has a slight fever but is about his business and will not consider himself a bed patient. Previous history is negative, transillumination is indefinite, the nasal mucosa is still markedly inflamed and pus is seen without any definite location, but does reappear in a short time underneath the middle turbinate. Smith is busy, cannot see why radiographic plates are necessary since all he wants is some relief. Our procedure is to meet his demands by cocaineization, without adrenalin, and suction by the Coffin apparatus, preceded if there is a crowding together of the middle turbinal and bulla, by infracture of the former towards the midline. Small doses of aspirin and phenacetine supplement the office treatment. Relief is obtained, nature assumes the upper hand, resolution takes place, Smith is satisfied and we are content with a more or less unscientific diagnosis. I am not entirely satisfied as to the rational of suction and the so-called vacuum headache, but the fact remains that relief is often obtained whether pus is withdrawn by the suction or not.

Again, let us presume that Smith returns and has not obtained the relief desired, or that it is his first visit and that transillumination (Briggs) shows a darker antrum on one side. He has noticed that a large amount of discharge is present in the morning on arising, the line of pus under



the middle turbinate may or may not reappear shortly after removal. The pain is largely supra orbital. We now use the trocar in the inferior meatus followed by irrigation. Positive findings of pus demand daily irrigation, the continuation of the suction treatment as long as pus is seen in the two upper meati. Lavage of the antrum is not complete until the aspirated fluid is clear. If we have difficulty with the return flow, or the opening tends to close it is easily enlarged with the rasp, punches being more difficult at times to insert under the inferior turbinate.

The odor present at the initial opening is of no particular prognostic significance.

Following this conservative treatment, Smith has remained at work, sleeplessness has left him, and in fact, he feels back to normal, but the antrum discharge has lessened up to a certain point and then remained stationary. He has undergone a dental examination with negative findings. We are satisfied that his antrum is the only cavity involved. After using various solutions for irrigations, we feel that all are wanting without free drainage and that with free drainage it does not make very much difference what you use except that all solutions are of themselves more or less irritating to the antra-mucosa, and with our patient without symptoms, except a small persistent discharge, we simply give him a rest, have him come back in a week or ten days, lavage the antrum with negative findings and realize that further treatment would have impeded rather than aided nature. Maxillary sinus disease of dental origin I believe is better treated after the extraction of the offending teeth and the curetting of softened bone, through the inferior meatus than through the alveolar process.

Chronic maxillary sinusitis demands more radical measures, but considering the various pathological conditions found within the sinus and the variations in anatomical conformation of the nasal chamber, I do not believe there is any one operation that is suited to all cases. Drainage is still the preeminent factor. Only part of the mucous lining showing positive degeneration, polypoid or otherwise, should be curetted. Denudation of the entire lining membrane of the cavity precludes the possibility of its ever regaining a normal membrane. In order to accomplish this it is necessary that the cavity be inspected by the eye, and such inspection and accomplishment is difficult in the presence of much blood. Therefore we have adopted two courses, one for cases under local and one for cases under general anesthesia, because the control of hemorrhage is more difficult under general anesthesia, the su-

prarenal extracts here seeming to have little effect. Under local anesthesia the Dahmer method is rejected because it first demands the removal of a large amount of the inferior turbinate. We prefer to commence the operation according to Skillern's pre-turbinal operation, this affording an inspection of the sinus partly by the eye and partly by the naso-pharyngoscope. If the pathology revealed is not particularly marked we are content, but since the opening made by this operation has a decided tendency to close before we are ready for it to do so and if there is much degeneration present we then change the operation to a Canfield and feel that while the sub-mucous resection of part of the inferior turbinate is difficult, it is much better than sacrificing the mucous membrane. In fact, with a small nasal chamber or a large turbinate occupying more than its rightful share of the nasal cavity, this sub-mucous resection is an added advantage to the patient. We use a loose pack for forty-eight hours and do not favor continued packing. Twenty per cent silver nitrate solution is applied to the walls of the cavity before the pack is inserted. Under general anesthesia, we prefer to operate first through the canine fossa following the Caldwell-Luc technique, this affording an inspection of the sinus and the removal of the degenerated tissue and part of the inner bony wall. Now leaving this operative field in the canine fossa we do a pre-turbinal operation or Canfield as indicated under the procedure, under local anesthesia limiting the distance outward from the crista piriformis according to the amount of bone excised when opening through the canine fossa. We prefer to leave a bridge of bone rather than convert the operation into a Denker.

Time does not permit a tabulation of symptoms of frontal sinus conditions. One must always bear in mind that the interior of these cavities does not normally always present smooth uninterrupted walls, but besides varying greatly in extent, have irregularities, partial septa and projections. The difficulties presented in the way of probing I have found even greater than ordinarily stated. There is no definite angle for the probe, and the probing should be without force or discontinued.

When our patient Smith presents himself with what we believe to be an acute frontal sinusitis there are several points I try to keep in mind. First, the serious complications from acute frontal sinusitis are very rare and that the chances or such complications may be enhanced rather than diminished by an undue amount of instrumentation. Secondly, the problem to be solved in the

beginning stages is areation and later drainage of the cavity. While formerly an attempt was made to accomplish an irrigation of the cavity we now largely dispense with it. Our request for rest in bed and the opportunity for rapid elimination by means of sweats and through the alimentary canal is generally disregarded unless the pain is of a severe type. We are content or perhaps forced to be content in the practical handling of these cases which do not present manifest complications with the shrinking of the tissues by means of cocaine followed by the use of suction. Preceding the suction the middle turbinate is inflected towards the midline and if the symptoms are not relieved the removal of the anterior end of the middle turbinate follows. The combination of aspirin and phenacetine to relieve pain, a course of calomel, and finally the drinking of 30 to 40 grains of sodium bicarbonate dissolved in a glass of water every four hours for the alkalizing effect constitute our regular internal medication.

Knowing that chronic inflammation of the frontals are sequelæ of acute inflammations and that very rarely is the condition found without an involvement of the ethmoids, the fact remains that chronic though the condition may be, the great causative factors to be eliminated are the conditions that interfere with the drainage. The correction of a deflected nasal septum is too often neglected. The many external frontal operations of a few years past seems to me rather a sad commentary on the credulity of the medical profession. Radical external operations do not give the patients 100 per cent cures and entail a definite surgical risk to life. Notwithstanding expressions to the contrary, a comparison of the transillumination of the two frontals has some value, particularly when corroborated by the radiographic plate. Further the x-ray, while not revealing the type of pathology, has been one of our greatest boons in outlining the anatomy of these cavities.

Headache as met with now may be most any kind of headache. Tenderness has not the diagnostic value it possesses in acute cases. Never are we to diagnose a chronic frontal sinusitis without an exploratory investigation by needle or trocar, of the maxillary antrum.

Scanty secretions with continued severe symptoms generally mean more advanced changes, while profuse discharge with relief generally more limited pathology. Considering the one narrow outlet from the sinus we bend our efforts to maintain its patency by the correction of anatomical variations, septal, turbinal and eth-

moidal. Every effort is made to enter the sinus by probe and canula. In the enlargement of the duct the use of the rasp has to me proved most satisfactory. It works from behind forward and to work in the opposite direction or simply upwards is disregarding the great respect that should be shown the roof of the nasal chamber and the posterior wall of the frontal cavity. So our patient, knowing his hazards, rejects an external operation even though there continues to be some fetid discharge, and we do not particularly urge it unless his headaches remain or recur in severe form or he suffers from other conditions, possibly focal in origin, which incapacitates him at times. There are, of course, absolute indications for external operations.

The ethmoid labyrinth with no definite number of cells and with no rule as to position or size makes it almost impossible to formulate any definite rules of procedure. Yet here really lies the crux of our surgical sinus work. Our problem has not changed. It is one of drainage. Our coryzas must be largely acute ethmoiditis catarrhal or suppurative with more or less of an extension to the other sinuses. Nature brings about resolution and the more one studies his anatomy the more one marvels at nature's capabilities.

Skillern in his recent article making a plea for conservatism first assumes that the middle turbinate is radically removed before adopting his conservative course. He lays down the dictum of tracing the pathology to its source at the same time emphasizing the necessity of drainage. Secondary operation with the loss of landmarks and the formation of fibrous tissue following the first operation is difficult and it seems to me that we are still looking for our Moses who is not going to lead out of the ethmoid labyrinth but into it and show us just how and when to reach the sources of infection with the least sacrifice of normal nasal mucosa.

Chronic hyperplastic ethmoiditis without visible polypi is often baffling. Inflecting the turbinate may not reveal it. The justification of operative interference is established often only from the symptomatology, headache, anosmia, orbital symptoms, asthma, bronchitis and pharyngeal irritation. Continuous "colds" should arouse our suspicions. Headaches are usually rather constant while in suppurative conditions they depend largely upon the damming back or inclosing of the pus.

Be the condition hyperplastic or be it suppurative we have in a general way been guided to follow two pathways depending on the size of the nasal chamber. Drainage being our cardinal



point, if the nasal chamber is narrowed to any definite extent by a deflected septum that receives our first consideration. Having had or obtained a broad nasal chamber, attention is turned to the anterior end of the middle turbinate and if it contains as it so often does a large cell this is opened by hook or forceps, curetted and then crushed together. If the middle turbinate stills appears to be obstructive the anterior end is removed. With our wide chamber the middle turbinate can be infracted and by curette and biting forceps we enter the bulla and ethmoidal labyrinth, breaking down the cells seen to be infected. We know that all cells are not reached, but we do feel that we have facilitated drainage with the least sacrifice of nasal mucosa and that if secondary operations become necessary there has not been an undue obliteration of landmarks. Hyperplastic ethmoiditis with polypi formation often yield to this treatment and where headache has been most prominent symptom the patient obtains the relief for which he came to us.

With the narrow nasal chamber and with the middle turbinal closely applied over the ethmoids or with the broader nasal chamber when post nasal examination by the naso-pharyngoscope establishes a predominating or marked infection of the posterior ethmoidal cells, the immediate sacrificing of the entire middle turbinate bone is indicated limiting the curettage to those cells which show infection.

The fact remains, however, that the ethmoidal labyrinth still presents a problem which has not been satisfactorily.

When we consider the sphenoidal sinus whose thin walls are associated above with the optic nerves and the pituitary body and externally with the cavernous sinus and the internal carotid artery and which by over reabsorption may extend into the lesser wings of the sphenoid, into the pterygoid processes and into the basilar process of the occipital bone, we can indeed acclaim with the old professor of anatomy who held the bone aloft and said, "The sphenoid bone, d..... the sphenoid bone."

It seems strange that with its ostium far above the most dependent part of the cavity that it rarely suffers an acute inflammation per se sufficient to warrant interference in an operative way. Headaches radiating to the parietal and temporal region or to the ears and with tenderness of the eye balls is rather significant. Headache in these chronic cases may not be prominent at all.

We are all familiar with the means of differential diagnosis as ordinarily outlined and the sig-

nificance of pharyngitis sicca, pharyngitis lateralis, post nasal accumulation particularly in the morning, ocular symptoms especially scintillating scotoma and enlargement of the blind spot, laryngeal symptoms, hoarseness and catarrhal inflammation about the arytoids.

Nowhere do we have impressed upon our minds more the importance of sinus drainage as here for the chronic cases as long as this is maintained generally go along for years without any apparent ill-effects except the local irritation. Reinfection after operation frequently occurs with no particular ill-effects, providing there is no obstruction offered to the purulent discharge. Contrasted to these cases are the severity of symptoms when infection exists with obstruction and procrastination with meningitic or ophthalmic symptoms may be fatal.

We must have some general rule to follow when our patient suspected of sphenoiditis presents himself. First there is almost always associated with chronic sphenoiditis a posterior ethmoiditis. Secondly, due to anatomical variations sounding will be unsuccessful in the majority of cases. Thirdly, when we have symptoms which draw our attention to the sphenoid and in addition establish the presence of pus near the ostia by means of the mirror or naso-pharyngoscope or by the latter see that this area shows a very marked congestion I feel one is justified in adopting this procedure. First the correction of septal deflections interfering with complete diagnosis. Secondly, because of the close association of sphenoiditis and posterior ethmoiditis it is not essential spend a great deal of time trying to differentiate between the two because the means of establishing a positive diagnosis and the operative measures permissible are almost one and the same. Sacrifice the posterior half of the middle turbinate the ostium is then easy of access and without difficulty enlarged down to the floor of the sinus. Here ends the operative procedure. Do not curette the sphenoidal sinus. If polypi present themselves they may be pulled out but be content with facilitating drainage. If the opening tends to close it can be easily enlarged again, and local treatment to the sinus mucosa continued. Only in those cases presenting serious complications is the radical sphenoid operation to be performed. I have never done this through the maxillary antrum, for it seems to me that what we can do, can be performed by the nasal route.

Multiple sinusitis demands the same reasoning that do infections of the individual sinuses.

In concluding my one thought is that in the surgical treatment of our sinus cases the cardinal

principle to be kept in mind is the aiding of nature by free drainage and this alone is very often all sufficient.

## COMBINED ANESTHESIA

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(Continued from May Issue, 1922)

### Discussion

Dr. C. R. Armentrout, Keokuk—The subject of combined anesthesia is one that is of a very great interest to every surgeon. Until recently combined anesthesia to most of us meant the use of nitrous oxid, oxygen and ether. I have used this anesthesia in nearly 300 cases, and am pleased to say that my observations were very close to those of Dr. Ryan. Some of the principal points of interest to me were these: It shortens the time before the patient goes under the anesthesia. With ether it is always at least ten or fifteen minutes, and this period is shortened a great deal when you use the combined anesthesia. Also it shortens the interval following operation, for the patient comes out from under the influence of this form of anesthesia almost immediately. There is some difference in the amount of post-operative nausea. Under combined anesthesia there is not nearly the percentage of cases of post-operative nausea as there is even with ether given by the open method, and it is particularly nice in extended cases where you cannot use local anesthesia throughout, but must have a general anesthetic for a few moments during the heaviest part of the operation. But the most important thing of all, to me at least, is the fact that it is necessary to have an expert to administer the combined anesthesia. You cannot depend on some one who knows nothing about it, because in inexperienced hands it is the most dangerous anesthetic that we have anything to do with, and should, I believe, never be used without the preliminary injection of morphin and atropin. There is one other thing we have to take into consideration in our private work, and that is the cost of the anesthetic. One anesthetizer kept a very close record of the length of time and the amount used, and found that the actual cost for the gas would amount to about \$7 an hour. Therefore if you are giving this anesthetic right along you will find that it is quite an item in your expense, and this constitutes one of the principal objections to its use in private practice. In using either ether or the nitrous oxid and oxygen, I have always firmly believed that a preliminary injection of morphin and atropin is a very great aid to the patient in going under the anesthesia, and whatever is an aid to him in lessening the nervous condition is also an aid to you in your after-care of these patients, because the greatest factor in after-care is the mental attitude of your patient when he goes under the anesthetic, the way he is managed through

the period of anesthesia, and the careful handling of tissues during the operation.

Dr. P. B. McLaughlin, Sioux City—This new era of local anesthesia which has developed in the last few years is to me one of the most wonderful things that could possibly happen to us, for this one reason: The delicate manipulation of tissue that a surgeon must necessarily employ if he is going to successfully operate under local anesthesia cannot help but make a better surgeon of him. A man using local anesthesia cannot tear or rip or pull or abuse tissue, and in the reparative process that follows his operation this surely is a great factor. The work done by one whom we might call the psychological anesthetist, preparatory to the patient's entrance to the operating room, is another and most important element in favor of this method. Then again, with local anesthesia the general comfort of the patient on the operating table must be considered. In the ordinary hospital it is nothing unusual to see a patient brought into the operating room on an iron slab with nothing but an oil cloth and sheet on top of it. We are not accustomed to going to sleep on an iron slab, and with the complete relaxation induced by ether anesthesia and lying there for an hour, it is no wonder we have terrific backaches and pains all over the body when we are returned to our bed and wake up from the anesthetic. Another thing that I have been taught since doing local anesthesia is the minimizing of manipulation and pull on the mesentery. Where you are doing an ordinary appendectomy under local anesthesia you can simply lift the appendix and pull it out of the abdomen, and in ten seconds that patient will be vomiting. If you keep traction off the mesentery he will go through local anesthesia without vomiting.

Dr. John E. Brinkman, Waterloo—I want to emphasize one point made by the essayist, and that is the time of the preliminary administration of combined anesthesia. He said one hour, which I think is a splendid idea. To give the hypodermic fifteen or twenty minutes before general anesthesia is begun, is not long enough. The soothing effect that you get from morphin, the drying of the mucous membranes from atropin, do not have time to take place if the hypodermic is given shortly before. Rather than to give it but fifteen or twenty minutes before, I would prefer not to give it at all, because then you are getting the combined effect at a time when you least desire it. In other words, about the time you get the patient under the anesthetic, along comes your morphin and you are getting more anesthesia than you need. Therefore the point is very well taken to give it a long enough time before so that you get the full physiological effect of your hypodermic before administering the anesthetic. In Dr. Voldeng's splendid talk yesterday on luminal, I think he said that this agent had no appreciable effect on pulse, respiration, or temperature. We sometimes find people who have an idiosyncrasy for opiates, and since hearing Dr. Voldeng's paper it has occurred to me that if luminal is hypnotic in a way,



as indicated in the reported cases in which patients would sleep for hours following its administration, would it not be worth trying in those cases? I would like to hear Dr. Voldeng discuss this point, not that luminal may have any preference over morphin, but we do know that there are certain cases in which, unless you give a very large dose of morphin, you stimulate instead of soothe.

**Dr. Ryan**—In connection with the use of combined anesthesia, Dr. Armentrout spoke of the necessity of having trained anesthetists. I want to further emphasize this point, not alone for nitrous oxid and oxygen anesthesia, but I believe we arrived some time ago at the stage where the anesthetic and its importance should be recognized and realized. That is to say, everywhere and at all times possible a person should be a trained anesthetist before being allowed to administer any anesthetic, whether it be ether, chloroform or nitrous oxid. The day of "pouring ether" is past. I remember in my school days seeing men pour ether, meanwhile looking around and recognizing their friends in the amphitheater and probably carrying on a conversation as to what they were going to do that evening. I hope that day is past in anesthesia. We should realize that the anesthetic is a most important factor in surgical procedure, and while ether does not require the intimate knowledge and experience in its administration, I do not think any of us realize just how much after-effect can be charged up to ether. The point that strikes me most forcibly is that we have entered on an era in which the anesthetist should be a specialist just the same as is the eye, ear, nose and throat man, and I hope that fact will be realized as rapidly as possible by the profession in general. It is true that the combined anesthesia is more expensive, but in my experience, after explaining to the patient the difference in the expense of ether and nitrous oxid anesthesia, in by far the majority of cases the reply has been, "Well, I want the best, I want to get through as easily as possible and with the least amount of trouble possible." And I have found that they are willing to pay the expense themselves when the matter is explained to them, although I will admit that it is a factor. Dr. McLaughlin also spoke of a very important point, and that is a comfortable pad for the table. I think those of us who have been on an operating table can appreciate what he has said, and I have been there, I have been the recipient of all kinds of anesthesia and therefore speak from experience. If you want to try it, lie on a hard table for thirty minutes, not moving while awake, and see what the effect is. In connection with this, another thing that is sometimes done, and which I think should be relegated to the past, and that is strapping the patient's hands or arms down on a board before the anesthetic is started. Those who have been on an operating table can appreciate this; those of you who have not can hardly realize just what these little things mean. I thought I knew something about it before my experience, but found that I could learn a lot, and I will tell

you that I would not permit anybody to tie my arms or hands down before the anesthetic was started. And I will not permit it in my work, and it is not necessary if you have an anesthetist that knows and will pay attention to his business.

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#### NATIONAL BOARD OF MEDICAL EXAMINERS

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The dates for the next two examinations of the National Board of Medical Examiners are as follows: Part I and II, June 19, 20, 21, 22 and 23, 1922. Part I and II, September 25, 26, 27, 28 and 29, 1922.

Applications for the June examination should be in the secretary's office not later than May 15, and for the September examination not later than June 1. Application blanks and circulars of information may be had by writing to the secretary, Dr. J. S. Rodman, 1310 Medical Arts Building, Philadelphia, Pennsylvania.

Kindly publish this statement in your Journal as soon as possible.

Very truly yours,

J. S. RODMAN, Sec'y.

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#### AMERICAN SOCIETY FOR THE CONTROL OF CANCER

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The following officers of the society were elected for the year 1922: Dr. Charles A. Powers, president; Dr. George E. Armstrong, Dr. Clement Cleveland, Dr. Livingston Farrand, Dr. Rudolph Matas, vice-presidents; Thomas M. Debevoise, secretary; Dr. Calvert Brewster, treasurer, U. S. Mortgage & Trust Co.; Sir Arthur Newsholme, honorary vice-president.

All these officers held office during the previous year, with the exception of Mr. Calvert Brewer, who replaced Mr. Howard Bayne as treasurer, Mr. Bayne having resigned because of pressure of other duties.

Dr. Charles N. Dowd, Dr. John C. A. Gerster, Mr. Calvert Brewer and Mrs. Samuel Adams Clark, all of New York City, were added to the board of directors.

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Des Moines Doctors: We neighbors are more dependent on you than perhaps on any other class of citizens in our town—and what's more we're proud of you. Among your number are surgeons that would be internationally famous in wider fields and physicians whom I would trust in direst need as fully as those whose names are household words, because of a metropolitan setting—and their fees. But don't you think that \$5 for a house call is a bit steep in these days of deflation? Fortunately it doesn't hurt me, because I so seldom have need for your services. But it looks to me as though you were soaking the sick folks of our own town too hard. If you aren't careful the spirit of Charlie Miller, hovering over the state house, will inspire some legislator to go and do likewise—with more serious results for you than Iowa history now records.—The Neighbor, Des Moines News.

# The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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OFFICE OF PUBLICATION, DES MOINES, IOWA

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No. 6

## THE SEVENTY-FIRST ANNUAL SESSION OF THE IOWA STATE MEDICAL SOCIETY

The Seventy-first Annual Session of the Iowa State Medical Society convened at Des Moines, May 10, 11 and 12, with an attendance of nearly 600 members registered. The exact number being 575.

Very few papers were missing and the discussions unusually free and by careful watching the schedule was on time. Several notable papers were presented. The address by Dr. Christian of Boston, and Dr. Davis of Philadelphia excited much interest.

The address delivered by Dr. A. M. Pond, the retiring president was full of practical good sense, and pertinent to the changes in the medical practice of today. Dr. Pond referred particularly to the unnecessary fears that appear to gain possession of the minds of some of unfriendly legislation, particularly to forms of state medicine, compulsory health insurance, maternity bills and other bogies. Dr. Pond does not appear to fear in Iowa, adverse legislation if the medical profession performs its full duty to the public as a profession. In this we fully concur, and never seriously entertained the thought that the people would refuse the medical profession all the credit it was entitled too. We however, have reason to believe that the public will hold the medical profession to a strict accountability for unskilled or negligent practice.

The House of Delegates is always watched

with interest as to its conduct of the essential business of the Society; its selection of officers and committees, and the expenditure of the Society's money. The new plan of co-ordinating the state activities in which the medical profession should have an important part, was subject to discussion and inquiry. The committee appointed under a resolution suggested by President Don Macrae last year, after a year of study, made an elaborate report which will be found in the proceedings of the State Society and an appropriation of \$7,500 was made. This may be an experiment, but probably in the right direction. Time will determine the results and the modifications necessary, but it is clear that something should be done in the way of field activities to co-ordinate matters of interests to the public and the profession.

For the past three or four years, we have been trying to believe that we are the most unfortunate of men. We have made many attacks on the wind mills with the experience of Sancho Panza. The Illinois Medical Journal has devoted many pages to the dangers of poverty and approaching slavery of the medical profession from compulsory health insurance. Michigan has been in the greatest danger from the ruinous influence of its great university on the medical profession, and the profession in Minnesota is in equal danger from the Mayo Foundation, although Minnesota Medicine and Northwest Lancet have not shown equal anxiety. If there is, or has been any real danger, the situation would indeed be serious. During the war, certain experiences came up that would appear to show that the medical profession was not meeting public expectation and certain commercial manifestations were appearing that tended to lessen the confidence of the public in the claims made by the profession, particularly in relation to the conservation of public health, which would appear at least, to lessen the business of doctors. The growing faith in the advantages of workmen's compensation in business circles gave countenance to the idea of medical practice being a public service. The spread of this idea in European countries, led to the discussion of this plan of medical practice in the United States.

The violent and unreasoning antagonism to this plan, threatened at one time to lead to some experiments in this direction in the United States. So violent was the opposition that conservative men who believed that important suggestions for the improvement in the methods of practice should be seriously considered were subjected to



most bitter attacks. That some of the most prominent and successful members of the medical profession should advocate a plan that would destroy the influence of the profession seems too absurd to merit serious consideration. It is gratifying to say that this feeling never prevailed in Iowa. The State University has never been accused of trying to enslave or of pauperizing the profession, or to destroy its influence in the interest of a university group.

The profession in Iowa has been willing to discuss the question of state medicine (whatever that may mean) without excitement or prejudice, realizing that certain interests were considering medical service under different conditions from what we had been accustomed to in the past. In business, contract service had been accepted as a principle and it was easy to extend this principle to medical and surgical service. The United States Army had employed contract surgeons, transportation companies and industrial corporations employed contract medical service, lodges of various kinds had done this same thing and it was only a step to extend this kind of service to the general public. The bitter attacks of the past of the profession, on what the public regarded as a welfare service, created a suspicion of selfishness on the part of the profession, and that the claims on the part of the profession to serve the public were without foundation.

It was also held that the large sums of money furnished by the public in the education of doctors gave the public, special claims on the medical profession.

Conservative men in the profession believed that the true relations of the medical profession to the public were worthy of serious discussion even at the risk of being misunderstood. The result of this discussion seem to show that the method of practice must vary in different sections of the country and under different conditions. It would be quite absurd to suppose that agriculture could be carried on in all sections of the country with the same detail. Agriculture in the Mississippi Valley, in the hill farms of New England, New York, Pennsylvania and in the South is not quite the same. The same principles may be involved but the method must necessarily differ. So must the details of the practice of medicine.

It is difficult to see how the practice of medicine can in its general plan, in different sections of the country, be arranged by legislation; it must come by a process of evolution, as the result of experience. There is absolutely no reason for any form of state medicine in Iowa or in states

like ours and we have never seriously considered it. We have discussed compulsory health insurance and as the result of this discussion, we have gradually adjusted ourselves to changed conditions. Each county arranged its relation to the public. Some counties have been more forward than others. Some have adopted methods which have been modified or are in the process of modification. Other states having large industrial cities, may find it necessary to adopt methods different from others. In other states where country life and agriculture is different from ours, other methods must be worked out and by the profession itself, not by legislation. It is difficult for us in Iowa to understand the violent agitation that is going on in some of our neighboring states and the horrible fears expressed of pauperization and slavery which is threatening the medical profession.

We firmly believe that at no time in the history of medicine, has there been a higher public appreciation of the medical profession than at present. The large gifts made by rich men in support of medical education and the appropriations by states in support of medical universities should be evidence of this. It is true that legislatures have given recognition to methods of practice of medicine quite different from ours, but this is not evidence of an unfriendly attitude, but is in accordance with our democratic principles of government. Every class is entitled to equal opportunity, and we gain nothing by denying this principle. It remains for us to keep our house in order and render to our patients and to the public what lies in us, keeping in mind always that every man and every profession must in the end stand on its own feet.

The important thing to consider is the providing as near as may be, the best facilities for the treatment of disease. This is not accomplished by warring on other systems, or methods of practice, but by developing our system or methods. In our opinion, the fundamental fact is in developing what the public is manifesting a remarkable interest in, and that is, the building and supporting some form of community hospital in almost every village of importance. This work is going on with some temporary failures, it is true, but it is a beginning; we are learning by experience and are readjusting our plans to suit local conditions. Not a few doctors find it more agreeable to work alone, others enjoy the work better in cooperation. The opportunity is open to all. It is clear enough that no standardized plan of practice can be adopted until we can all see the world, and all there is in it from the same point of view. There

is of course an economic business side to the practice of medicine that will appeal to reasonable men, even if they see things from a somewhat different angle, that will bring doctors together as it does business men in general.

#### RAY LYMAN WILBUR, M.D., PRESIDENT-ELECT AMERICAN MEDICAL ASSOCIATION

Ray Lyman Wilbur, born Boonesboro, Iowa, April, 1875; son of Dwight Locke and Edna Maria (Lyman) Wilbur, A.B., Leland Stanford Jr., University, 1896, A.M., 1897; M.D., Cooper Medical College, San Francisco, 1899; student, Frankfurt-on-the-Main, and London, 1903-1904, University of Munich, 1909-1910; (LL.D., University of California, 1919, University of Arizona, 1919); married Marguerite May Blake of San Francisco, December 5, 1898. Instructor physiology, Stanford University, 1896-1897; lecturer and demonstrator physiology, Cooper Medical College, 1899-1900; assistant professor physiology, 1900-1903, professor medicine, 1909-1916, Stanford University; dean of Medical School, Stanford, 1911-1916; president Stanford University since January, 1916. Chief of conservation division United States Food Administration, Washington, D. C., 1917; member California State Council Defense, 1917; regional educational director S. A. T. C., District No. 11, 1918. President, California State Conference, Social Agencies, April, 1919. Fellow A. A. A. S.; member American Academy Medicine (President, 1912-13), A. M. A., California Academy Medicine (President 1917-1918), Phi Beta Kappa. Clubs: University, Commonwealth, Bohemian, Pacific Union (San Francisco).

#### OFFICERS OF THE IOWA STATE MEDICAL SOCIETY ELECTED AT THE RECENT ANNUAL MEETING

President—Dr. C. J. Saunders, Fort Dodge.  
 President-elect—Dr. O. J. Fay, Des Moines.  
 First Vice-president—Dr. George Kessel, Cresco.  
 Second Vice-president—Dr. O. F. Parish, Grinnell.  
 Secretary—Dr. T. B. Throckmorton, Des Moines.  
 Treasurer—Dr. Thos. F. Duhigg, Des Moines.  
 Trustee—Dr. J. W. Cokenower.  
 Delegates to A. M. A.—Dr. Donald Macrae, Jr. and Dr. W. L. Allen, Davenport.  
 Alternates—Dr. D. N. Loose, Maquoketa, and Dr. B. L. Eiker, Leon.

#### IOWA STATE UNIVERSITY NEWS NOTES

Dr. Don M. Griswold

The Eleventh Medical Clinic of the College of Medicine of the State University of Iowa, held April 11-12, 1922, at Iowa City, was well attended, as shown by the attendance of over 250 physicians of the state.

Dr. A. J. Carlson, head of the physiology department of the University of Chicago, gave the main address of the clinic on endocrinology, Wednesday morning. Clinics were held by the various doctors in the different departments. Clinics were held by Dr. L. W. Dean in eye, ear, nose and throat, and otolaryngology; by Dr. H. L. Beye in general surgery; by Dr. F. Boiler in ophthalmology; by Dr. Clarence Van Epps in neurology; by Dr. Arthur Steindler in orthopedics; by Dr. J. B. Kessler in dermatology; by A. H. Byfield in pediatrics; by Dr. F. H. Falls in gynecology; by Dr. Fenton on fractures of the jaw; by Dr. C. P. Howard in internal medicine; by Dr. N. G. Alcock in genito-urinary surgery.

Wednesday afternoon, all visitors inspected the new psychopathic hospital across the river, in charge of Dr. S. T. Orton.

The department of obstetrics of the University Hospital is undergoing a thorough reorganization. To keep pace with the growth of the clinic, additional quarters have been provided and now all types of obstetrical service can be carried out under the best of circumstances.

Entirely separate housing is furnished for the legitimately pregnant waiting cases. Separate delivery rooms are provided for venereally infected cases. A special post-partum ward, and a few private rooms are provided for those complicated cases that need special care after delivery.

Three nurseries are provided for the babies which gives opportunity for proper segregation of cases showing any evidence of infection.

The delivery rooms are designed and equipped for taking care of every obstetrical emergency. Cesarean sections ruptured ectopic pregnancy and other major abdominal operative cases are handled in the main surgical amphitheater.

A well organized adoption service for babies whose parents are not venereally infected is an important element in the service.

Dr. Chase is making week-end trips over the state during April and May in the interests of the recruitment of pupil nurses for the University Hospital School of Nurses. Among other methods which he is employing is an endeavor to bring into an affiliation as many of the accredited colleges of Iowa as possible with reference to a combined course for the degree of "Bachelor of Science and Certificate of Graduate Nurse." He reports that he is meeting with much encouragement along this line.

The Doctor has in mind many other services in



behalf of the College of Medicine and its hospitals and adjunct schools, which will occupy his full time.

The new Venereal Disease Hospital which has been in operation now but a very short time is filled to its capacity. This has unfortunately necessitated the turning away of a number of patients.

To be certain of the entrance of a patient into this Venereal Disease Hospital, arrangements should be made with the hospital before the patient arrives.

Dr. L. W. Dean, dean of the College of Medicine, has presented several specimens of rare birds to the museum of the University. The director of the vertebrate museum says that the specimens are in excellent shape and will add considerable interest to the local collection.

Dr. Dean has financed two expeditions for the vertebrate museum and has aided materially in acquiring a fine collection of birds and fish.

The University of Iowa is doing some intensive campaigning to recruit students in the training school for nurses, and they are sending two graduate nurses out through the state to present to high school and college students the possibilities of nursing as a profession for young women. There has been too little understanding on the part of the public heretofore of our schools of nursing and the various possibilities of the nurse. Miss Stella Venard, the supervisor of the operating room, and Miss Lillian Anderson, the head nurse of the medical department, who have been chosen to present this subject of the training of young women in our schools of nursing of today, are well qualified to speak of the matter at first hand. They are to present this as vocational work and to urge young women who are giving consideration to this subject to look into the matter thoroughly, stressing especially those schools which are giving prime consideration to the educational side in order that the advanced standard of nursing may be maintained.

Dr. C. P. Howard presented a paper before the Association of American Physicians, which met at Washington, D. C. the first part of May, 1922.

### MEDICAL NEWS NOTES

The Waterloo Medical Association endorsed the seventy-five minutes for lunch campaign now being carried on in the East District Schools. The medical men, in a discussion of the case, were of the opinion that the child kept in school from early morning until late afternoon was not getting sufficient outdoor exercise.

An action in the district court was brought Monday afternoon, April 24, by Dr. O. C. Morrison, nam-

ing the Carroll Clinic, incorporated, and Drs. F. V. Hibbs, C. C. Bowic and H. R. Pascoe as defendants.

A three days' clinic which will be an outstanding event in state medical circles will be held in October by the Polk County Medical Association.

In charge of the clinical program are Dr. A. P. Stoner, president of the association; Dr. James T. Priestley, president of the Mercy Hospital staff; Dr. A. C. Page, president of the Methodist Hospital staff; Dr. W. S. Conkling, president of the Lutheran Hospital staff; Dr. W. L. Bierring, president of the Samaritan Hospital staff, and Dr. E. G. Linn, president of the Congregational Hospital staff.

The arrangements committee includes Dr. F. R. Holbrook, Dr. M. L. Turner and Dr. Ralph H. Parker.

Publicity is in charge of Dr. Thomas F. Duhigg, Dr. W. E. Sanders and Dr. D. J. Glomset.

### Notice to Physicians

Sealed bids will be received by the board of supervisors of Boone County, Iowa, until 12 o'clock noon on Monday, April 17, 1922, for services as county physician for the ensuing year.

Bids will be opened at 1:00 o'clock p. m. and contracts awarded.

Board reserves the right to reject any or all bids.

ARCHIE PATTERSON,

Boone County Auditor.

April 22 marks the passing of the last of the old independent medical weeklies—the Medical Record. The final issue as a separate publication appeared on that date and announcement was made that the Medical Record had been sold to, and combined with, the New York Medical Journal, which appears semi-monthly.

Throughout the fifty-six years of its service to the profession, the Medical Record has had the same publishers and but two editors. Dr. George F. Shrady guided its course for the first thirty-eight years and was succeeded by his assistant, Dr. Thomas L. Stedman, who has long been dean of American medical editors, and widely esteemed. The famous old firm of William Wood & Company will now devote its energies entirely to the publication of medical books in which service it has been engaged for 118 years.

It is interesting to recall that many of the most important discoveries and developments in the progress of medicine were first announced to the American profession by the Medical Record. These include Lister's method of antiseptics; Koch's discovery of the tubercle bacillus and that of tuberculin; the employment of cocaine in eye surgery; the roentgen rays; the discovery of the antitoxin of tetanus and that of diphtheria; Madame Curie's discovery of radium and many others.

## SOCIETY PROCEEDINGS

### Cerro Gordo County Medical Society

Meeting of the Cerro Gordo County Medical Society was held at Clear Lake, Iowa, May 23. Dinner was served in the Watkins Cafe at 6:45 P. M., which was enjoyed by the twenty-four members present. After the dinner the business meeting was called, followed by paper on Medical Ethics, by Dr. N. W. Phillips. Discussion by Drs. F. G. Murphy, J. C. Wright and H. M. Hoag. Presentation of case histories of some interesting nervous diseases, by Dr. L. R. Woodward. Presentation of a case of Hemiplegia, by Dr. E. L. Wurtzer.

Wilbur L. Diven, Sec'y.

### Johnson County Medical Society

At the meeting of the Johnson County Medical Society held April 18 at Iowa City, An Outline for the County Health Center under the auspices of the School of Public Health Nursing of the University, was presented and a committee from the Society was appointed to assist in the carrying out of the project, Drs. Scarborough, Albright and Bennett constituting the committee. Dr. G. C. Albright read a paper on Reflex Nasal Neuroses and Dr. A. Steindler presented a paper on Variations in the Spinal Column.

L. G. L.

### Plymouth County Medical Society

Plymouth County Medical Society met on Tuesday evening at Merrill, where they were guests of Dr. G. F. Vernon and Dr. A. Naffziger of Merrill, and Dr. F. W. Fletcher of Hinton. Dr. R. F. Bellaire of Sioux City, gave an interesting demonstration of x-ray pictures and Dr. Vernon read a paper on influenza and its treatment.

### Marion County Medical Society

The Marion County Medical Society met in regular April session the afternoon of April 20, in the rooms of the Knoxville Chamber of Commerce.

Dr. Wm. E. Sanders of Des Moines presented the subject of The Management of Cardiac Disease in a most interesting and instructive manner.

Dr. F. R. Holbrook also of Des Moines, gave a most able discourse on Fractures with particular emphasis on the frequent use of the x-ray during process of treatment.

Eighteen members and visitors were in attendance prominent among whom was Dr. Channing Smith of Granger, councilor of the Seventh District.

The next meeting will be held in Knoxville in June.

C. S. Cornell, Sec'y.

### Tama County Medical Society

The Tama County Medical Society met at Gladbrook, April 21. Twelve members and their wives were in attendance. A dinner was enjoyed at the

Methodist Church followed by readings given by Miss Agnes Law of Traer, formerly of the Cumack School of Oratory, Evanston, Illinois.

At the business session, a county fee bill was adopted, and the following officers elected for the year: A. A. Pace, Toledo, president; Knight E. Fee, Toledo, secretary-treasurer, and J. A. Pinkerton, Traer, delegate. C. W. Maplethorpe, Toledo, presented a paper on Intestinal Infections in Children; on account of the recent epidemic in the county, this paper was of more than ordinary interest. H. V. Hasek, read a very interesting paper on Diagnosis and Treatment of Common Skin Diseases.

A. A. Crabbe, Sec'y.

### Wapello County Medical Society

Dr. K. L. Johnson and Dr. J. G. Roberts were guests of the Wapello County Medical Society at a meeting and banquet at the Hotel Ballingall, Ottumwa, Tuesday evening, April 4. Dr. Fairchild, of Clinton, addressed the meeting, delivering a most scholarly address. A notable thing concerning the meeting was that of twenty-seven men present twelve were ex-service men and members of the American Legion.

### Southwestern Iowa Medical Society

The Southwestern Iowa Medical Society was held at Creston, April 20.

Officers—President, R. J. Matthews, Clarinda; vice-president, F. L. Williams, Villisca; secretary, J. S. Coontz, Garden Grove.

The program was as follows: Glioma of the Cerebral Hemispheres, a comparative study of two cases, Dr. Tom B. Throckmorton, Des Moines. The County Medical Society, Dr. Donald Macrae, Jr., Council Bluffs. The Relationship of the Physician to Public Health, T. J. Edmonds, Des Moines. The Unification of Medical Influence, Dr. Frank M. Fuller, Keokuk.

### Northwestern Iowa Medical Society

The regular spring meeting of the Northwestern Iowa Medical Society was held at Sheldon, April 26.

Banquet at Hotel Meyers at 7:00 p. m.

Meeting called to order at Commercial Club rooms at 8:00 p. m.

Officers—President, F. S. Hough, Sibley; vice-president, F. W. Cram, Sheldon; secretary-treasurer, Jay M. Crowley, Rock Rapids.

Censors—F. J. McAllister, 1922; H. L. Avery, 1923; D. G. Lass, 1924; Peter I. Dahl, 1925.

Committees—Local arrangements, F. W. Cram. Resolutions—D. G. Lass, H. J. Brackney, L. L. Corcoran. Publication—F. P. Winkler, G. H. Boetel, G. C. Vermeer, G. Maris. Consolidation—McAllister (chairman), Corcoran (vice-chairman), Cram, Winkler, Roland.

The program was as follows: Pneumothorax, Traumatic in Origin—Case Report, Dr. D. C. Snyder.



President's Address, Dr. F. S. Hough. Foreign Bodies in Respiratory and Food Passages, Dr. J. B. Naftzger, Sioux City. Paper, Dr. Wm. Maris.

Wertheim film shown at the Lyric Theatre—Clinical examination for pregnancy, abnormalities of skeleton, normal delivery, breech presentation, face presentation and delivery, resuscitation of a child, Walcher pasture, eclampsia, breech presentation with extraction of child, podalic version from head presentation and extraction of the fœtus by the foot, extraction of the dead fœtus by the foot with perforation of the after coming head, craniotomy (perforation of a skull of a dead fœtus), forceps delivery, Caesarian section, Caesarian section with hydramnios, examination of prolapse of uterus, removal of ovarian cyst by laparotomy.

#### **The Iowa and Illinois Central District Medical Association**

The regular April meeting of the Iowa and Illinois Central District Medical Association was held at the Rock Island Club, Friday evening, April 21, at 8 o'clock. Dinner was served at the club at 6:30 at which the visiting essayist was present.

The evening's program consisted of two papers by Dr. James T. Case of Battle Creek, Michigan: (a) New Deep Therapy in the Treatment of Malignancy. (b) Differential Diagnosis of Right Upper Quadrant Lesions, with special reference to X-ray help.

His papers were illustrated with lantern slides.

A. T. Leipold, Sec'y.

#### **Tri-State Medical Association of Iowa, Illinois and Wisconsin**

It is announced that the annual fall meeting of the Tri-State Medical Association of Iowa, Illinois and Wisconsin will be held at Peoria, Illinois, October 30-31, and November 1 and 2, 1922.

The following are the officers of the Association: Honorary president of clinics, Dr. William J. Mayo, Rochester, Minnesota; honorary president, Dr. James R. Guthrie, Dubuque; president, Dr. John E. O'Keefe, Waterloo; president-elect, Dr. Horace M. Brown, Milwaukee, Wisconsin; vice-president, Wisconsin, Dr. Jos. S. Evans, Madison; vice-president, Illinois, Dr. Edwin P. Sloan, Bloomington; vice-president, Iowa, Dr. Frank M. Fuller, Keokuk; managing director, Dr. Wm. B. Peck, Freeport, Illinois; secretary-treasurer, Dr. Domer G. Smith, Freeport, Illinois.

Dr. H. G. Langworthy is a trustee and organizer of the organization's foundation fund and one of the active men of the organization since its inception.

#### **Southern Minnesota Medical Association**

Mid-summer meeting of the Southern Minnesota Medical Association will be held June 19 and 20, 1922, Rochester, Minnesota.

Among the speakers from outside the state who will be guests of the Association and will appear on the scientific program are: Dr. W. B. Cannon, Bos-

ton, Massachusetts; Dr. Judson Daland, Philadelphia, Pennsylvania; Dr. Fred H. Albee, New York City, New York; Dr. William B. Coley, New York City, New York; Dr. George E. Shambaugh, Chicago, Illinois; Dr. Willis Campbell, Memphis, Tennessee; Dr. Herman L. Kretschmer, Chicago, Illinois; Dr. Preston H. Hickey, Detroit, Michigan; Dr. Nathaniel G. Alcock, Iowa City, Iowa; Dr. George V. I. Brown, Milwaukee, Wisconsin; Dr. M. G. Seelig, St. Louis, Missouri; Dr. George W. Heuer, Cincinnati, Ohio.

The program for the forenoon sessions of Monday, June 19 and Tuesday, June 20, will consist of Surgical and Medical Clinics, and Demonstrations in all departments at the following hospitals: St. Mary's Hospital, Colonial Hospital, Worrell Hospital, Curie Hospital, Olmstead Hospital, Clinic Building.

The program for the afternoon sessions will consist of scientific papers, and the mid-summer banquet will be held at the gymnasium, high school building, Monday evening, June 19, 1922, at 6:00 p. m.

In purchasing your railroad ticket be sure to get your certificate which, when countersigned by the secretary-general, will entitle you to one-half return fare.

Make your hotel reservations early by addressing Mr. Roy Watson, chairman committee of arrangements, Southern Minnesota Medical Association, Rochester, Minnesota.

The official program will be published by May 15, 1922.

Program Committee—Dr. H. W. Meyerding, chairman, Rochester; Dr. J. C. Staley, St. Paul; Dr. B. P. Rosenberry, Winona; Dr. Aaron F. Schmitt, ex-officio, Minneapolis, Minnesota, secretary general, 705-707 P. & S. building.

The Sioux City Welfare Bureau was staffed on March 15 last, and officers elected for the current year, Dr. John W. Shuman, president; Dr. W. E. Cody, vice-president; Dr. Arch F. O'Donoghue, secretary. Heretofore the clinic had been operated by volunteers from the Woodbury County Society. The staff meets on the second Wednesday of each month. The meeting of April 12 was well attended. Papers were read by Drs. R. N. Waters and J. E. Reeder on general and local anesthesia respectively.

Arch F. O'Donoghue, M.D., Sec'y.

#### **HOSPITAL NOTES**

A new home for Mercy Hospital nurses, Dubuque, was formally opened March 26. Sister Gregory in charge of the home and Sister Mary Philomena, superintendent of nurses.

Finley Hospital of Dubuque is giving a series of lectures on public health matters which are open to all those interested. The following is the list of the lectures and dates: March 9—What the Public Should Know About Cancer, Dr. F. P. McNamara.

March 16—How the Public Health Laboratory Protects Your Health, Harold A. Grimm. March 23—What an Adequate Diet Means, Mary Cunningham. March 30—Diphtheria; Detection; Modern Treatment; Prevention; Demonstration of Shick Test, Dr. F. P. McNamara. April 6—The Nurses' Training School as a Community Asset, N. Adele Northrop. April 20—Are You Getting What You Pay For? Harold A. Grimm. April 27—What Hospital Standardization Means to the Community, Dr. F. P. McNamara.

F. P. McNamara.

The Grinnell Community Hospital Association, through the terms of the will of the late Sophronia Georgia Turner, has received a bequest amounting to between \$20,000 and \$25,000, according to an announcement made by Dr. O. H. Gallagher before a meeting of the directors and some of the staff.

By the terms of the will, the trustee, W. C. Rayburn, may dispose of the entire estate and convert the sum realized into a bond or real estate investment, the income from which goes to a sister of Miss Turner, Rosetta Powers, for the rest of her life and at her death the whole reverts to the hospital association for the maintenance and benefit of the Community Hospital, or its successor.

The present officers of the Community Hospital staff are Dr. O. F. Parish, Grinnell, president; Dr. E. B. Williams, Montezuma, vice-president; Dr. P. E. Somers, secretary. Following is a full list of the hospital staff, elected by the hospital board to date. Dr. C. D. Busby, Brooklyn; Dr. Elias Barge, Montezuma; Dr. L. L. Gould, Kellogg; Dr. J. C. Ravitts, Montezuma; Dr. E. B. Williams, Montezuma; Dr. Delano Wilcox, Malcolm; Dr. G. B. Ward, Gilman; Dr. E. S. Evans, Grinnell; Dr. W. W. Hansell, Grinnell; Dr. L. A. Hopkins, Grinnell; Dr. J. R. Lewis, Grinnell; Dr. C. H. Lauder, Grinnell; Dr. O. F. Parish, Grinnell; Dr. P. E. Somers, Grinnell; Dr. E. F. Talbott, Grinnell.

The hospital at Akron, Iowa, which was recently dedicated, is a former dwelling remodeled at a cost of \$5000. The equipment is modern throughout with a complete x-ray outfit, operating and sterilizing rooms, finished in white enamel and cement floors. Three doctors and two regular nurses care for the twenty beds in this institution.

#### PERSONAL MENTION

Dr. Henry Albert, head of the department of bacteriology at the University of Iowa, Iowa City, has resigned on account of his health and will become head of the state board of health laboratories of Nevada, where the Western climate is more suited to him.

Dr. R. H. Lott of Maquoketa has been appointed to the management of an eighty bed hospital at Carroll.

Dr. F. T. Launder of Garwin, homeopathic member of the state board of health, was reappointed Monday, April 24.

In the village of Janesville, Bremer county, Iowa, lives a typical country physician, Dr. David S. Bradford. For more than a half century he has practiced medicine in the village, and in the years now past literally grown into the life and choicest affection of its townspeople. The rock-like stability and worthy attributes of Dr. Bradfords character may be traced very easily to William Bradford, governor of Massachusetts in the days of the Mayflower, and the landing of the Pilgrims, to whom the Doctor traces his ancestry. In 1840 he was born in Schohaire county, New York, and was graduated from Albany Medical College in 1866. After only four years of practice he decided to break into the life of the then far western part of the United States. Leaving Rock City Falls, New York, in the spring of 1870 he came directly to Iowa, and settled in Janesville, where he has maintained a continuous residence, and unbroken practice for more than fifty years.

Dr. T. C. Knox has decided to leave Marcus and will go to Lawton where he will locate about May 1. Dr. Knox has resided in Marcus most of his life and has practiced medicine here for ten years.

Dr. Ben Hamilton left recently for Boston, where he will enter the medical school of Harvard University for a few weeks' course of post-graduate training in the diseases of children including medical and surgical treatment; also in physical diagnosis. His work will be done largely in connection with the Massachusetts General Hospital.

Superintendent Von Krog has announced the appointment of Dr. C. M. Wray, of Iowa Falls, to be surgeon at the training school to succeed Dr. Keyser, of Marshalltown, who has been doing the work up to this time.

Dr. Guilford H. Sumner, until recently secretary-executive officer of Iowa State Board of Health, a resident of Waterloo for many years, has received many testimonials of his services during the twelve years he was with the state board. Dr. Sumner still holds legal residence in Waterloo, though living at Des Moines. A resolution adopted by the Iowa State Board of Medical Examiners December 28, 1921, said Dr. Sumner had been "an able and ideal official." The board included Dr. F. T. Lauder, Dr. H. S. Eschbach, Dr. G. F. Severs and Dr. C. S. Grant. These men were also members of the Iowa State Board of Health.

Dr. J. W. Osborne was elected president of Des Moines health center at the annual meeting of directors at the Chamber of Commerce.

Dr. W. W. Beam and Dr. T. R. Campbell, who have been practicing medicine under the firm name of Drs. Beam & Campbell, dissolved partnership this week by mutual consent.

Dr. H. E. Farnsworth was re-appointed health physician, Storm Lake, by the city council at their recent meeting.



A degree of fellowship of American College of Physicians was conferred upon Dr. J. Rowntree, at the American Congress of Internal Medicine held at Rochester and Minneapolis last week. A total of seventy-five degrees were given to men from every state of the union, eight being conferred upon Iowa physicians. They are: Dr. G. N. Ryan, Des Moines; Tom Throckmorton, Des Moines; S. Gaumer, Fairfield; W. Meis, Sioux City; J. Shuman, Sioux City; E. M. Williams, Sioux City. Many interesting and scientific papers were read at the convention which was held at Rochester April 4, 5 and 6; at Minneapolis, April 7 and 8.

Dr. Granville N. Ryan of Des Moines was selected by the democrats as their candidate for congress from the seventh district. He heads the list of candidates for state and county offices selected by the democratic county committee.

Fifty years ago Dr. Winfield Fordyce entered the active practice of medicine at Glasgow and for one-half century has continued his labors with untiring effort in Jefferson county. Although he is in his seventy-fourth year, he never lets age interfere with night calls or unpleasant tasks, and his straight and open forward manner with other members of the profession, as well as his honesty and simplicity with his patients has awarded him with one of the largest practices in the city. Dr. Fordyce was born in Lee county in 1848, the son of Lewis and Mary Newby Fordyce. The days of his boyhood and youth were spent in Van Buren county, where he was reared to farm life. However, when he reached twenty-one, finding that his tastes were not agriculturally inclined, he began the study of medicine with Dr. J. M. Morris of Birmingham. Later he attended lectures in the College of Physicians and Surgeons at Keokuk, Iowa, which place he completed his course in February, 1872. As a testimonial to his long service, the physicians of the Jefferson County Medical Society tendered him a banquet, given at the Leggett House. An excellent toast program was arranged and Dr. S. K. Davis of Libertyville presided as toastmaster. Dr. A. O. Williams of Ottumwa discussed Boneset and Other Specialties, while Dr. F. M. Tombaugh of Burlington talked on The Golden Age of Medicine. When the Doctor Is in, was taken up by Mrs. J. S. Gaumer and As Others See Us, the subject of a short toast by Dr. C. L. Tennant. The officers of the organization who planned the dinner are Dr. M. C. Carpenter, president; Dr. G. K. Dunkel, vice-president; and Dr. Charles Ricksher, secretary-treasurer. Dr. J. S. Gaumer, Dr. Charles Ricksher and Dr. J. Fred Clarke comprise the committee on arrangements. The invited guests were Dr. and Mrs. W. Fordyce, Mr. and Mrs. J. M. Burnett, Burlington, Dr. and Mrs. J. A. Roth, Rock Rapids, Dr. and Mrs. Chester Fordyce, Rev. and Mrs. C. L. Tennant, Dr. and Mrs. A. O. Williams, Ottumwa, Dr. F. M. Tombaugh, Burlington, Dr. and Mrs. S. A. Spillman, Ottumwa, Dr. J. F. Herrick, Ottumwa, Dr. F. C. Mehler, New London, Dr. T. G. McClure, Douds,

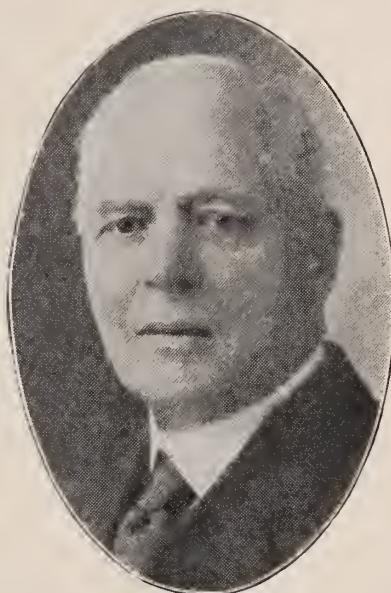
Dr. H. E. Woods, Birmingham, Dr. J. Norris, Birmingham, Miss Ellen Anderson, Dr. C. S. Bishop, Dr. and Mrs. F. S. Bonnell, Dr. and Mrs. M. C. Carpenter, Dr. and Mrs. J. F. Clarke, Dr. and Mrs. W. H. Connor, Dr. and Mrs. I. N. Crow, Dr. and Mrs. G. K. Dunkel, Dr. and Mrs. S. K. Davis, Dr. and Mrs. W. E. Dodds, Dr. and Mrs. J. S. Gaumer, Dr. and Mrs. E. G. Grove, Dr. and Mrs. A. S. Hague, Dr. and Mrs. L. D. James, Dr. and Mrs. D. H. King, Dr. and Mrs. Chas. Ricksher, Dr. P. J. Sherlock, Dr. and Mrs. R. B. Stephenson, Dr. and Mrs. J. K. Stepp, Dr. and Mrs. C. C. Tallman.

Dr. Wm. R. Fazlo succeeds Dr. J. D. Lowery as city health physician of Fort Dodge.

### DR. EUGENE A. CROUSE

Dr. Eugene A. Crouse celebrated the fiftieth anniversary of distinguished practice at Grundy Center March 15 under the most agreeable circumstances.

The Grundy County Medical Society with a deep appreciation of Dr. Crouse's character and profes-



DR. EUGENE A. CROUSE

sional merits and with that neighborly feeling which should distinguish every medical practitioner who have so many things in common joined in an event which Dr. Crouse will remember with the deepest gratitude to the end of his days. The life of a doctor is so full of experiences, many of them of a trying character, that expressions of appreciation and affection are the most grateful that can come to him. While greatness and riches are always welcome, yet there is something more; that is difficult to measure by ordinary standards, that which lies in the hearts of men.

Not only did his county society join in expressions of affection, but many of his profession, present and

absent, his lay friends and all whose lot in life whether under his ministrations or of others who have felt the need of medical guidance, are filled with appreciation of what an honest and upright doctor means in the community and to his professional associates wherever found.

Dr. Crouse graduated from the Medical Department of the University of Pennsylvania March 11, 1870 and located in Grundy Center soon after. Those were pioneer days, and no one appreciated this fact more than the country doctor whose cases were often emergency cases with no time for deliberate preparation; at night in storm, and roads difficult to appreciate today. The anxiety of the patient took no account of the personal danger the doctor was exposed to. All this was forgotten by Dr. Crouse when he was surrounded by his many friends who told him in generous terms their feelings and how much they appreciated his sacrifices.

Among the members of the profession outside Grundy county were Dr. Howard of Iowa City, Dr. Bierring, Des Moines, Dr. McManus and Dr. Small of Waterloo. Many letters of congratulation were read.

There is a growing custom in friendly communities to honor men who have been engaged in active practice for a period of fifty years. This is more notable in county districts where warmer friendship exists than in cities where a more bitter competition prevails.

Dr. Crouse still remains in active practice.

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### OBITUARY

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J. B. H. Feenstra was born at Groeningen, Holland, May 12, 1843, died at Pasadena, California, April 1, 1921. Coming to the United States soon after the Civil War he settled at Pella, Iowa, later going to Ackley, and still later to Arcadia in the same state. He lived at the latter place thirty-three years, engaged in practice and conducting a drug store.

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Dr. Leonard DeVore, sixty-eight years old, widely known physician in Nebraska and Iowa, died at the home of his son, Alonzo De Vore, 1012½ Douglas street, recently after an illness of three weeks. Death was due to neuritis.

For twenty-five years Dr. De Vore practiced medicine at Ponca, Nebraska, moving from there to South Sioux City, Nebraska, where he remained for fifteen years. He came to Sioux City to live with his son January 10.

Dr. De Vore was born on a farm in Noble county, Ohio, February 22, 1854. He was the son of Mr. and Mrs. Isaac De Vore. When twelve years old his parents died leaving him an orphan. For a time the physician resided with his mother's parents. Not contented with his lot, he worked his way West, settling near Des Moines, Iowa.

Selecting the medical profession as his life's work.

Dr. De Vore attended Drake University at Des Moines, working as a barber at the same time. He was graduated and later attended the college Ames, Iowa. For a time he practiced medicine at Colfax, Iowa, and later moved to Ponca. From there he went to Laurel, Nebraska, where he remained two years and then moved to South Sioux City.

While in Ponca, Dr. De Vore wrote a book entitled "Boy in the Wild West," which dealt with his life as an orphan. He described his wanderings in a vivid fashion since he left his mother's parents in Ohio.

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Dr. James A. McCroskey, a Civil War veteran and a resident of Davenport, for the last two years, died at St. Luke's Hospital following an illness of two months' duration.

He was born in Franklin county, Ohio, July 9, 1839, and was graduated from the New York College of Medicine. During the Civil War he served for three years under General Dodge in Co. K, Second Missouri Volunteer Cavalry, and after his discharge at St. Louis married Miss Mary Arnold at Macon City, Missouri.

For twenty years he practiced medicine in Monroe, Iowa, coming to Davenport two years ago to live at the home of his granddaughter, Mrs. Walter Heald, 921 East Fourteenth street.

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After a lingering illness covering a period of more than two years Dr. J. W. David passed away Saturday morning, April 22. J. W. David was born at Olney, Illinois, February, 1841 and when a small boy moved with his parents to Belmont, Wisconsin. Later he attended the schools and the academy at Plattsville, Wisconsin, until the year 1862, when he enlisted as a soldier in the Civil War. At the close of the war, after completing his education at Rush Medical College in Chicago, he returned to Highland, Wisconsin and purchased a drug store and began the practice of medicine. He was married in 1866. In 1874 Dr. and Mrs. David moved to Muscoda, Wisconsin, where they remained eight years. They then moved to Forest City remaining there four years. The family came to Alden in 1886 where the Doctor continued practice.

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Mrs. Effie Alice, wife of Dr. Frank T. Hartman, died suddenly at 7:15 p. m. April 25 at their residence Mulberry and Fifth streets, Waterloo. She was stricken with apoplexy after sitting down for the evening meal and before she had partaken of any food. She died forty-five minutes later without regaining consciousness. Dr. Hartman is almost prostrated by the unexpected visit of death in his home.

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Dr. Thomas Gilmore Roberts, for the last year and a half a resident of Davenport, died at 1 o'clock April 22 at his home, 1920 East Fourteenth street, after a lingering illness of six years' duration. His wife was formerly Miss Laura Winkler.



Dr. Roberts was born in Groton, Vermont, October 18, 1850, and was a graduate of the Iowa State University and State University of Missouri at St. Louis.

Claude A. Power, son of Andrew and the late Viola Power, was born in Pulaski, Iowa, on September 14, 1879. Here he grew into boyhood, young manhood and manhood and lived in this community until the day of his decease. As a boy he attended the public school of Pulaski, and later attended and graduated from the Southern Iowa Normal School located at Bloomfield, Iowa. He also took some studies at Drake University at Des Moines. He spent about four years teaching in the Iowa public schools, part of the time in Pulaski. In 1909 he graduated from the Iowa State University Medical School and after taking one year of interne work in the Flower Hospital in New York City, he returned to Pulaski and opened up his office for the practice of medicine. Here he enjoyed a prosperous practice until, because of failing health, he was compelled to relinquish his active practice in the last week of July, 1921. Since that time he was able to do only office practice and that only for a part of the time. Failing health kept him confined to the house most of this time to his bed. In the hope that he might receive relief and help, he was taken to the Graham Hospital in Keokuk on March 9 last and there made a valiant fight against the inroads of his disease. With the best of care, the struggle was a losing one and his end came suddenly on Saturday morning, April 22, 1922.

Dr. B. H. Criley, formerly known in Iowa medical circles died at his home in Los Angeles, California, January 10, 1922 of apoplexy at the age of seventy-one years. He was born in Downingtown, Pennsylvania. In 1871 he located in Dallas Center where he practiced until about 1914 when after more than forty-three years' successful practice, feeling the necessity of a less strenuous life and more rest in a more congenial climate, disposed of his professional interests and moved to Los Angeles. Those of a generation of physicians now, rapidly passing remember Dr. Criley as a most genial associate and companion and one of high professional ideals. Sorrowing him is his widow and one son Dr. Clarence Criley of Los Angeles.

From newspaper sources, we learn that Dr. Daniel W. Layman a graduate of Drake University and of Chicago University died in San Diego, California, about February 20, 1922. Dr. Layman was born in Des Moines and practiced medicine in Marion, Iowa, for several years.

Dr. J. S. Wailes of Mystic, a pioneer Appanoose county physician died at the home of his daughter, Mrs. Charles Mornson, April 16, 1922.

Dr. T. N. Bogart, the well known physician at Excelsior Springs, Missouri, was found dead in his office April 1. Death due to apoplexy.

Doctor Herman A. Richter was born in New York City on May 7, 1867, and died in the early morning of March 16, 1922. He thus reached the age of fifty-four years, ten months and nine days.

The deceased spent his early childhood in the place of his birth and there began to attend school. When twelve years of age he moved with his parents to Boyonne, New Jersey, where he continued his schooling in the grade schools and thereupon finished his course in the high school of that city.

Soon after he attended the State University of New York, where he finished the medical course of said institution, graduating in 1891.

He began his practice of medicine in Bayonne, New Jersey. Then he practiced for a time in Scranton, Pennsylvania. In the spring of 1895 he came to Klemme, Iowa, where he continued his practice for the following seven years, then moved back to Scranton, Pennsylvania, for a short time. In May, 1902, he removed to Garner, Iowa, where he lived since.

Dr. Joseph MacDonald, managing editor and publisher of American Journal of Surgery, and co-publisher of Medical Pickwick, died suddenly in his office on January 7, 1922 of cerebral hemorrhage, at the age of fifty-one.

Dr. MacDonald was born in Branchville, New Jersey, in 1870. He spent many years in medical journalism. He rose from office boy to manager in the office of the International Journal of Surgery. In 1905—meanwhile having received his degree in medicine—he resigned from that position to establish the Surgery Publishing Company and the American Journal of Surgery (formerly the American Journal of Surgery and Gynecology). From the outset he associated with himself a New York surgeon, Dr. Walter M. Brickner, as the editor-in-chief. Dr. MacDonald was ex-president and, for many years, secretary of the American Medical Editors' Association, an organization in which he was deeply interested and in whose affairs he was an active and earnest factor.

He was an officer in the Medical Reserve Corps of the United States Army since 1909. Upon our entrance into the war he was commissioned a captain and, in December, 1917, a major. Later he was appointed a member of the General Medical Board at Washington.

A few months after his discharge from the army in 1919, Dr. MacDonald suffered a cerebral hemorrhage causing a hemiplegia, from which he recovered largely by dint of plucky perseverance—a characteristic that dominated all his activities. He was a hard worker and extremely energetic. He was always genial, frank and optimistic.

Dr. MacDonald had a magnetic personality. He had a host of friends, within and without his profession, who will mourn his early death. He is survived by a wife and sister, Mrs. W. C. McKeeby, wife of Dr. McKeeby of Syracuse, New York.—*New York Medical Journal*, February 1, 1922.

Pearce Bailey, New York City; College of Physicians and Surgeons of Columbia University, New York City, 1889, died at his home, February 11, from pneumonia, aged fifty-seven. Dr. Bailey was graduated from Princeton University, in 1886, and following his medical graduation studied abroad, much of the time in France. He was adjunct professor of neurology at Columbia University, from 1906 to 1910, and consulting neurologist to St. Luke's, Roosevelt, New York and other hospitals. Dr. Bailey was a member of the editorial board of the *Archive of Neurology and Psychiatry*; he contributed extensively to medical periodic literature and was author of *Accident and Injury; Their Relation to Disease of the Nervous System*, published in 1898. During the war he served as colonel, M.C., U. S. Army, in charge of the neuropsychiatric division in the Surgeon General's office, in recognition of which he received the distinguished service medal. He was a former president of the American Neurologic Association; chairman of the New York State Commission for Mental Defectives; one of the founders of the New York Neurologic Institute, and originator of the Classification Clinic recently established in New York City for determining medical efficiency and aptitude of young men for various vocations. Dr. Bailey, while devoting himself to one of the medical specialties, was a man of public spirit and broad vision.

George Noble Kreider, Springfield, Illinois, medical department of the University of the City of New York, 1880; former surgeon of St. John's Hospital; died, January 4, aged sixty-five. Dr. Kreider was born in Lancaster, Ohio, October 10, 1856, and received his A.B. and A.M. from Ohio Wesleyan University; was a surgeon in charge of the Wabash Hospital; treasurer, 1891-1901, and president 1901 of the Illinois State Medical Society; founder and editor of the *Illinois State Medical Journal*; president of the Sangamon County Medical Society, 1899; lieutenant-colonel and assistant surgeon-general of the Illinois National Guard. For several years he served on the Illinois State Board of Health.—*Journal of A. M. A.*

Dr. Pierre McDermid died at his home in Fontanelle, March 23, 1922, after a short illness of less than two days, from apoplexy at the age of forty-six years, three months and nineteen days.

Dr. McDermid was born in Fontanelle, December 4, 1875, the son of Dr. Peter and Anna H. Hetherington McDermid. He received his preliminary educa-

tion at Simpson Academy, graduated in medicine at Drake Medical School 1894 and from Rush Medical College 1898, served an internship in St. Joseph's hospital, Chicago, one year.

In 1900 Dr. McDermid went to Europe and continued his studies in London and Edinburgh. He was active in politics being affiliated with the democratic party and in 1914 was elected to represent Adair county in the state legislature.

When the United States entered the World War, he was one of the first to offer his services and was commissioned a lieutenant in the Medical Corps. Soon on account of failing health, he resigned and returned home.

Dr. McDermid was a member of the Adair County Medical Society, of the Iowa State Medical Society and a Fellow of the American Medical Association. He was active in Masonic circles, was a member of Des Moines Consistory Scottish Rite Masons.

Dr. McDermid had gained an enviable reputation as a physician and surgeon and occupied a high position in community in which he practiced. His death is felt as a personal loss in Adair county.

Frederick Angier Spafford, Flandreau, South Dakota, Dartmouth Medical School, Hanover, 1879; secretary of the South Dakota State Medical Association; member of the board of regents, University of South Dakota of Medicine, Vermilion; served during the World War as senior medical advisor of the state; Indian Service; died recently, aged sixty-six, from heart disease.

Harry R. Layton, M.D., Leon, Iowa, College of Physicians and Surgeons, Keokuk, 1874. Died at his home in Leon, May 1, 1922, age sixty-nine. Member Decatur County and Iowa State Medical Societies. Leading physician and surgeon in Decatur county for forty-eight years.

#### Resolution of the Tama County Medical Society Upon the Death of Mrs. Mary Walter, Wife of Dr. A. F. Walter

Whereas Providence has removed from the home of Dr. A. F. Walter, of Gladbrook, Iowa, his wife, Mrs. Mary Walter, therefore be it resolved:

That we extend to him and his family our deepest sympathy in the loss of an affectionate wife and loving mother:

Resolved, second, that a copy of these resolutions be sent to him and family, that a copy be furnished the Iowa State Medical Journal, and that the resolutions be properly spread upon the records of the Tama County Medical Society.

(Signed) G. T. McDOWALL,  
GEORGE MEYER,  
Committee.





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## BOOK REVIEWS

PROCEEDINGS OF THE FIFTEENTH ANNUAL MEETING OF THE ASSOCIATION OF LIFE INSURANCE PRESIDENTS, NEW YORK, DECEMBER 8-9, 1921.

Life insurance is unquestionably one of the most important activities in our country. We are inclined to look upon life insurance as a form of business in which we are not interested except as we may get a "job" of examining applicants from time to time. As a matter of fact however, it is one of the most far-reaching in its helpfulness of any business we know of. It is a curious fact that an activity so helpful in its operations should find it necessary to go out into the field, and solicit insurance by the exercise of the most persuasive methods possible, when men who have family responsibilities remain indifferent, and do not hasten as they ought to purchase at least a moderated security for their dependents.

We are not referring to insurance as a business investment but to insurance as a positive duty for the protection of dependents. In this volume are several valuable addresses which may be read with great profit by physicians not examiners as well as examiners, and also laymen of all classes.

## NEOPLASTIC DISEASES

A Treatise on Tumors by James Ewing, M.D., Sc.D., Professor of Pathology at Cornell University Medical College, New York City. Second Edition, Revised and Enlarged. Octavo of 1054 Pages with 514 Illustrations. W. B. Saunders Company, 1922. Cloth, \$12.00 Net.

Three years ago the first edition of this important work appeared. It appeared to us at that time after careful examination, that everything known about neoplasms had been stated. In the past three years new enquires have been made without materially changing our conception of neoplastic growths, particularly regarding the etiology of cancer. Ewald is quite at variance with Wilson and McCarthy of the Mayo Clinic in relation to the association of peptic ulcer with cancer. According to the Mayo Clinic 68 per cent of ulcers are associated with carcinoma. Ewald thinks that the higher estimates above 2 or 3 per cent indicate too high an average. In other countries, the estimate varies from 3 to 50 per cent. Moutier in France finds in thirty-five cases, nineteen simple ulcers and fifteen cancer. Quite likely we will have to wait for another generation for an agreement.

The relation of trauma to tumors has not changed in the second edition and Ewing cites the attitude of the French and German courts concerning the influence of trauma in causing tumor growths. The enquirer seeking information concerning questions in pathology will find what he is looking for in this volume.

## DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS

By Jay Frank Selamberg, M.D., Professor of Dermatology and Syphilis. Graduate School of Medicine, University of Pennsylvania, Fourth Edition, Thoroughly Revised; Octavo 626 Pages, 265 Illustrations. W. B. Saunders Company, 1921. Cloth \$5.00 Net.

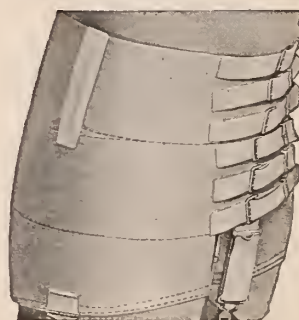
This interesting and highly practical book comes to us for the first time and we are led to examine it with much care. We are impressed at once with the fact that not much space is devoted to elementary anatomical and physiological facts with which readers of medical books are presumed to be familiar. The book is somewhat after the manner of a clinical treatise. Definitions, symptoms, etiology, pathology, diagnosis, prognosis and treatment.

A short chapter is devoted to Actinotherapy, Radiotherapy, Opsonotherapy and Refrigeration and the remainder of the book to Eruptive Fevers. The main part of the book devoted to Skin Diseases; is profusely illustrated, and furnish helpful aid in determining the nature of the disease and convenient formula are constantly furnished. If others have found difficulty in making up combinations for skin cases, they will appreciate with ourselves the comfort and convenience of referring quickly to something that we have lost or never acquired, that of combining drugs. We say this at the risk of being accused of being lazy or influenced by unscientific methods.

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## THE RELATION OF SPLENIC SYNDROMES TO THE PATHOLOGY OF THE BLOOD\*

WILLIAM J. MAYO, M.D., Rochester, Minnesota

Many diseases have been named on the basis of a purely symptomatic syndrome, the names being merely convenient hooks on which to hang a miscellaneous assortment of obscure conditions. The absence of definite etiology and pathology, however, is somewhat compensated for by a rather definite symptomatology which gives an appearance of reality to obscurity.

For many reasons disease syndromes of the spleen have been most remarkable in this respect. The spleen is an organ, whose removal in health causes no profound or permanent change in the human economy, whose function, such as it may be, is readily taken over by other organs or tissues, but whose diseases, are capable, directly or indirectly, of producing most profound constitutional changes which may lead to death.

A survey of these so-called splenic syndromes should not be too closely concerned with the details, but it should rather be an attempt to obtain a perspective of the phenomena as a whole. The most interesting of the splenic syndromes are those which concern the blood. The blood may be looked on as an organ in the form of fluid, instead of a connective tissue medium, its function being to carry oxygen and food to the body, to remove from them the ash and waste products, and in addition to carry noxious agents of all sorts which may gain entrance to the blood, to the kidneys, mucous membrane, and skin for elimination, or to the vital laboratories, of which the liver is the chief, for defense. The spleen, considered from this broader conception, is concerned with the purification of the blood, and is one of the agents whereby worn-out red cells and infectious or toxic material of various kinds are filtered from the blood stream and directed to the liver, the great metabolic and detoxicating organ

of the body. In other words, the function of the spleen and the pathologic misfortunes which it sponsors, concern, chiefly, the blood stream. It would appear that the spleen is not the principal agent, but that it is rather an organ of destruction through which the principal agent works.

Always it is our desire to place our hands definitely on a certain organ and say, "Here is the trouble," but indefiniteness lurks around the spleen. Even when splenectomy results in alleviation of the symptoms, or in cure, we are by no means convinced that the spleen was the cause of the ailment. We are only sure that by removing it we have eliminated an organ of destruction or perhaps broken a vicious circle. It is my purpose at this time to speak of five syndromes in which the spleen may play a *prima donna* role. Four of these, splenic anemia, pernicious anemia, hemolytic icterus, and polycythemia, concern the red blood cell, and one splenomyelogenous leukemia, concerns the white blood cell.

### SPLENIC ANEMIA

Splenic anemia is a clinical entity. Its chief characteristics are idiopathic enlargement of the spleen and chronic progressive and intercurrent anemia, with leukopenia. These are the antecedents of phenomena related to portal circulatory obstruction, such as gastrointestinal hemorrhage and ascites, which eventually cause death. If an attempt is made to study the clinical picture of splenic anemia in its minutiae, it will be found that the picture fades quickly, since the cause of the condition is obscure and pathologically often does not present distinctive characteristics; only when the picture is seen as a whole and by exclusion is a diagnosis possible.

Since the publication of Osler's article, in 1900, the principal advances in the investigation of splenic anemia have been made in connection with the recognition of those conditions which, although they simulate splenic anemia, have been found to have a specific cause. Hemolytic icterus, in which the jaundice is slight and intermittent, had been confused with splenic anemia. Occasional cases of pernicious anemia, in which the

\*Read before the annual assembly of the Tri-State District Medical Association, November 16, 1921

spleen is greatly enlarged, had also been thus improperly classified, not because the resemblance was striking, but because an enlarged spleen and the anemia were regarded as characteristic of the disease, and further investigation for the purpose of making a correct diagnosis was not continued. The splenomegalia of syphilis also is now recognized, and the enlarged spleens of chronic malaria, chronic sepsis, tuberculosis, and Gaucher's disease have been removed from the splenic anemia group as characteristic diagnostic features have been recognized. Various competent observers believe that von Jaksch's disease (infantile pseudo-leukemia) is the infantile form of splenic anemia, in which the presence of a leukocytosis and abnormal marrow cells may be explained by the transitional characteristics of infants' blood. von Jaksch's disease is probably a syndrome caused by various infantile disorders. There still remains, however, a number of cases in which the clinical picture of splenic anemia is present, and the cause is unknown.

The chief pathologic conditions found in the spleen in splenic anemia are generalized fibrosis, thrombophlebitis, and atrophy of the pulp cells. The deposits of connective tissue, endophlebitis, and compression atrophy of the malpighian corpuscles, are not grossly different from those of the splenomegalia of syphilis, malaria, and other diseases of known origin, associated with fibrotic spleens.

A patient with chronic fibrotic splenomegalia who presents characteristics of chronic secondary anemia, but who is not relieved by treatment, is potentially a sufferer from splenic anemia, and will probably be cured by splenectomy without regard to the cause of the disease. This has been especially true of patients with syphilis and malaria.

#### THE RELATION OF SPLENIC ANEMIA TO BANTI'S DISEASE

In 1883, Banti described splenomegalia and chronic anemia with cirrhosis of the liver. In numerous communications since, he added various diagnostic criteria which have still further obscured rather than clarified the subject. However, these criteria have made it possible to designate as Banti's disease almost any form of splenomegalia accompanied by anemia and liver changes in which a definite etiology cannot be established. Moschowitz, in a critical analysis of Banti's disease, came to the conclusion, with which I think nearly all observers agree, that Banti's disease cannot be distinguished from splenic anemia, and that what is ordinarily called Banti's disease is a

terminal stage which may be found in some cases of splenic anemia. That many patients die from splenic anemia without liver changes is certain. That some patients have cirrhosis of the liver at an early stage of splenic anemia is also certain.

Ascites, without changes in the liver, may occur in splenic anemia. The mere presence, therefore, of ascites in connection with splenomegalia is not sufficient to demonstrate that the liver is at fault, although I believe it may be said that anemia is not a marked feature of primary cirrhosis of the liver even if there is ascites, while in splenic anemia it is an early and more or less continuous manifestation. It seems probable that certain as yet unidentified toxic agents strained out of the blood by the spleen are responsible for the fibrosis of the spleen, and the changes in the spleen, for the cirrhosis of the liver.

It is also known that the spleen acts as a filter, removing bacteria from the blood stream, as in typhoid and tuberculosis; protozoa, as in syphilis and malaria, and undoubtedly other noxious agents. The spleen, unable to destroy these various substances, sends them through the splenic vein to the liver for destruction, and the reaction of the liver to chronic irritants is in the nature of a connective tissue disease which we speak of as cirrhosis, without regard to its cause. If the spleen is unable to rid itself of all the material that it filters from the blood stream, sequestration of the filtrates may occur and give rise to the various splenomegalias with assured etiology, such as those due to the *Spirocheta pallida*, *Plasmodium malariae*, *Bacillus typhosis*, *Bacillus tuberculosis*, and to others which have as yet no known etiology.

The spleen has differentiated and characteristic cells. It is, therefore, capable of varied pathologic conditions. The liver has but one type of cell with different physiologic activities, and its processes are less varied. The reaction of the liver to chronic irritation, which reaches it by way of the portal system without regard to cause, is usually a fibrosis which we call portal cirrhosis.

The portal cirrhosis of Lænnec does not vary in type, whether produced by gin or pepper, or whether it is found locally around areas of tuberculosis, gumma, or cancer. Usually cirrhosis is diagnosed with the hobnail variety of Lænnec in mind. Yet in my experience, accepting 1560 gm. as the weight of the average liver, the cirrhotic liver is as often enlarged as it is contracted. As pointed out by Osler, the beer drinker and others may have huge, smooth, cirrhotic livers, in which the characteristic fibrosis is smoothed out by deposits of fat. On this assumption, there-



fore, it could be said, inferentially, that the type of splenic anemia which is accompanied by cirrhosis of the liver and has been called Banti's disease is a condition in which the fibrosis of the spleen and the fibrosis of the liver are due to the same agent, that they have a common etiology, and that the removal of the spleen when the disease is not too far advanced cures the anemia by preventing excessive blood destruction and prevents these toxic substances reaching the liver so that the cirrhotic process in the liver itself is checked, and the ascites disappears. We have patients, whose cases fulfilled this description, alive and in good health for years following splenectomy.

I have previously called attention to the fact that there is another element of relief following splenectomy which must be taken into consideration. In the normal condition 25 per cent of all the blood carried to the liver comes through the splenic vein, while in enormously enlarged spleens the splenic vein may be the size of the portal vein. The removal of the spleen in these cases relieves the liver of an overload, and it then becomes able to carry on its function without those evidences of circulatory obstructions that results in ascites and hemorrhages. Splenectomy may, therefore, be looked on as equivalent to establishing an Eck fistula or the condition we attempt to bring about by establishing collateral circulation, after the method of Talma, Morison and Drummond, through the vascular channels of Sappey, a condition described by Fagge as found with advanced cirrhosis in some persons killed by accident while in apparent health.

The changes found at necropsy after death from splenic anemia are not necessarily to be considered the condition that exists throughout the whole course of the disease; they are to a large extent terminal. All the patients operated on who were not in an advanced stage of the disease recovered, after splenectomy, and the majority have remained well. We must, therefore, look on ascites, edema of the lower extremities, and cardiorenal decompensation as terminal conditions which increase the dangers of operation. Yet the spleen may be removed successfully even in the terminal stage of the disease. We have operated on a number of patients for splenic anemia who had extensive cirrhosis of the liver, many of these of the Lænnec type. Following splenectomy the ascites disappeared and the hemorrhages from the stomach stopped; the majority who recovered from the operation are alive and apparently well after some years. The spleens in cases of splenic anemia are usually adherent and

difficult to remove, and in the late cases when endophlebitis and thrombosis are marked the danger of an acute thrombosis of the large vessels of portal circulation is great. We have operated on seventy-four patients with splenic anemia of unknown origin with nine deaths. This does not include a number of splenectomies for splenic anemia of known origin, such as syphilis.

#### PERNICIOUS ANEMIA

The etiology of pernicious anemia is unknown, the early symptoms are indefinite, and by the time the diagnosis can be made the disease is incurable. The disease may be described as a progressive degeneration of the red blood cell or, more picturesquely, a cancer of the red blood. In contrast to splenic anemia, which is of the secondary type, the blood picture in pernicious anemia has characteristic cells which, more or less, identify the disease. The color index, or hemoglobin percentage, is higher in proportion to the number of red blood cells than in the secondary anemias. The lemon color of the skin, sometimes with an icteroid hue, is so different from the color of the skin in the secondary anemia that sometimes a diagnosis is possible by looking at the patient. This icteroid hue is more prominent in cases in which hemolysis is marked, as shown by examination of the duodenal content after the Schneider method. If we might assert that in cases of pernicious anemia in which hemolysis is most marked patients have a greatly enlarged spleen or that the spleen exhibits definite pathologic changes, we would have succeeded in establishing a direct connection between the enlarged spleen so often found and the disease. Unfortunately, our experience does not support this hypothesis, and the size of the spleen does not seem to bear a definite relationship to the severity of the disease. Necropsy, after death from pernicious anemia, as a rule, shows a small spleen, but in two only of our cases was the spleen below normal weight at operation, and both were terminal cases.

The average weight of the spleens removed in our cases of pernicious anemia was 400 gm., exclusive of two large spleens, one of which weighed 2220 gm. and the other 1600 gm.. It seems probable, therefore, that in pernicious anemia the spleen is enlarged during the early and middle stages, and that the contraction so often found at necropsy is a terminal condition. The question is as yet unanswered whether pernicious anemia is a definite and specific entity, or whether it is a terminal change of several conditions, and recognized only as pernicious anemia when the patient has reached a stage which we know will

eventually cause death. I have been struck with the fact that after complete gastrectomy the patients have much the appearance of pernicious anemia and even more striking is the resemblance between anemias having their origin in certain diseases of the proximal half of the colon and pernicious anemia.

Any form of treatment for pernicious anemia may prove, or at least may appear, to be beneficial. Even without treatment these patients have their ups and downs and it is not an infrequent clinical experience to have a patient present himself with symptoms which might be construed as being those of an early pernicious anemia, and then with or without treatment recover and remain well. In eliciting the history the physician finds that the symptoms are often indefinite in the earlier stages, before the blood changes become characteristic.

Eppinger first suggested splenectomy as a cure for pernicious anemia, and the early reports with the abundant testimony of temporary relief were quite sufficient to give the operation a fair trial in this hopeless disease. Considering the confusion which so often attends the early diagnosis, it seems probable that obscure cases of hemolytic icterus and splenic anemia have been accidentally included in the pernicious anemia group. Removal of the spleen in such cases may have contributed to the impression that splenectomy may cure pernicious anemia. In the investigation of our cases of splenectomy for pernicious anemia, great, although usually temporary, improvement has been noted. There is gain in weight, and improvement in the hemoglobin in the blood from an average of 38 to 72 per cent, and in the red cells from 2,000,000 to 4,000,000. Giffin and Szlapka found that of fifty patients with pernicious anemia for whom splenectomy had been performed in the Clinic more than four years before 21.3 per cent lived more than three years, and 10.6 per cent are still alive more than five years. These patients have lived on an average of two and one-half times as long as a comparable group of nonsplenectomized patients. It would appear that the spleen did not, on its own initiative, destroy the red cells, but that it acted rather as the agent of destruction, and splenectomy accomplished its purpose so far as it removed the destructive agent, breaking up a vicious circle, but probably not otherwise influencing the course of the disease. Evidently in pernicious anemia the patient is not able to produce normal cells, but the cells are capable of function, and splenectomy prevents their destruction. The

cord changes are not greatly improved by splenectomy.

In our experience in the cases in which the results were most favorable the symptoms were those less characteristic of pernicious anemia. In young and middle aged persons, in whom the disease is rapid, especially if hemolysis is known to be marked, splenectomy is worthy of trial. On the whole, it may be said that whenever pernicious anemia has developed to the stage in which the blood is characteristic, it is probably incurable, and terminal splenectomy is to be regarded as a means of palliation, and not of cure. We have splenectomized fifty-four patients with pernicious anemia with three deaths (5.5 per cent). The three deaths occurred in the first nineteen cases and were due to the fact that the patients were operated on during crises in an exacerbation of the disease. Since we have operated on these patients only when they are on the upgrade, as after transfusions of blood, we have had no deaths in thirty-five cases.

#### HEMOLYTIC ICTERUS

Hemolytic icterus has not been classified with the anemias, but, as pointed out by Kanavel and Elliot, the peculiar splenic activity results in an anemia which is the cause of death. The etiology of hemolytic icterus, as of splenic and pernicious anemia, is unknown.

A well developed case of hemolytic icterus stands out with a vividness unequaled in splenic anemia or in pernicious anemia. These three diseases, all of unknown etiology and lacking sound pathologic foundation, when examined in detail are without distinctive features. Viewed in the perspective they are outstanding clinical entities. The characteristic features of hemolytic icterus are an enlarged spleen, chronic jaundice with exacerbations, normal bile colored stools, and absence of bile in the urine.

It is certain that in hemolytic icterus the spleen destroys, unnecessarily, the red cells; the enlargement of the spleen may be in the nature of a work hypertrophy. Enlargement of the liver is usually present and may also be a work hypertrophy. In some of our cases sections from the liver showed definite hyperplasia of the cells. Sixty per cent of our patients splenectomized for hemolytic icterus had gallstones due to the great amount of pigment which inundates the liver from the destruction of the red cells. As these gallstones may cause infection of the biliary tract, obstruction, and so forth, a very confusing clinical picture results, which the history and enlarged spleen must be relied on to clear up.



There are two types of hemolytic icterus, the familial or congenital type of Minkowski, and the acquired type of Hayem and Widal. In the familial type the disease may be noticed from infancy and it may not be progressive; the patients live the allotted span of years in a fair degree of health, but with more or less jaundice throughout life. These cases are not uncommon and are to be seen in every community; in many instances a more serious condition develops which makes them indistinguishable from the acquired type, and like the acquired type, the disease progresses in the course of some years to a fatal ending.

Chauffard and Widal have pointed out that the red cells are less resistant in hemolytic icterus than normally, and our experience confirms these observations. Sanford has worked out a simple and very reliable method for testing the fragility of the red cells; this is being used in the Clinic extensively and with great satisfaction. We have removed the spleens from thirty-seven patients with hemolytic icterus with one death. This patient was operated on during a crisis; this death should not have occurred.

#### POLYCYTHEMIA

Polycythemia (*rubra vera*) is the opposite of anemia and signifies a condition of the blood in which the number of red cells is decidedly in excess of normal. This excess is constant and not due to temporary dehydration, such as sometimes results from diarrhea or profuse sweating, but depends on organic changes in the hemopoietic system, the nature of which is little understood. In polycythemia the red blood cells may reach from 8,000,000 to 12,000,000 and the hemoglobin may reach as high as 130; the increased viscosity of the blood causes the patient to present an appearance of cyanosis. The pathology of this disease is obscure, but one characteristic feature is the enlargement of the spleen. Heretofore, the attempt, based on what we know of the physiology and pathology of the spleen, to connect the spleen definitely with this syndrome, has failed, and the splenomegalia has been looked on as an incidental rather than an etiologic factor in polycythemia. This interpretation is still further borne out by the fact that when death occurs other organs show changes of a somewhat similar nature to those in the spleen. Yet the enlargement of the spleen is suspicious, and the history of medicine is the graveyard of dogmatic attempts to substitute postmortem pathology of terminal conditions for the pathology of the living.

Gastric hemorrhages are one of the occasional signs of polycythemia, and in the anemic condi-

tions which result, the spleen is reduced in size and the blood does not exhibit the characteristics of polycythemia. When the symptoms of the disease are re-established there is coincident enlargement of the spleen.

Polycythemia was described by Vaquez, in 1892, and in an early period Osler added greatly to our knowledge of the subject. If we accept the opinion of some careful observers who believe that the spleen not only destroys abnormal red cells, but also, to a considerable extent, controls through some internal secretion the productivity of the red cells of the bone marrow, we might explain the phenomena of polycythemia on the hypothesis that the spleen failed to destroy the normal number of red cells and produced a hyperactivity of the bone marrow.

In the Clinic, we have seen a few patients with polycythemia; one patient with an undoubted polycythemia was splenectomized shortly after recovery from a severe hemorrhage. The spleen weighed about 900 gm. General abdominal exploration did not show any remarkable pathologic condition outside the spleen. A section from the liver did not show hepatic disease. Following splenectomy the patient has regained his health to a remarkable extent, and all signs of polycythemia have disappeared. The time has been too short for us to know whether this remarkable transformation is permanent, but it leads to the thought that the spleen may be more closely connected with the disease than had been supposed and that splenectomy may, in certain cases, be indicated.

#### LEUKEMIA

If there has been any one condition believed to be nonsurgical and incurable, it is splenomyelogenous leukemia. The theory has been that at least 99 per cent of patients operated on for the disease would die as a result of the operation, and that the one who lived would not be benefited. Yet we have long known of therapeutic agents (benzol, x-ray, and so forth), which reduced the size of the spleen and, as might be expected, also improved the condition of the blood. With the use of radium, which could be applied readily over the area of the spleen, a vast change came about in the therapeutics of splenomyelogenous leukemia. I do not know of any clinical experience that is more striking than the good result which follows the application of radium over a huge leukemic spleen. Many times the spleen shrinks so much as to disappear below the left costal margin, and the white cells decrease from hundreds of thousands to below 10,000. I have even seen leukopenia produced, the white cells

decreasing from 600,000 to 3,700 in five weeks. With this extraordinary reduction in the size of the spleen and the reduction in the number of white cells an equally extraordinary improvement in the anemia takes place, and the patient is marvelously benefited. As the spleen again gradually increases in size the white cells increase, the red cells decrease, and the patient loses ground. It is well to eliminate all of our presumptions concerning this disease and to pause for a moment in perspective. Have we, in considering operation in this condition, as in so many other instances, allowed tradition to hamper progress?

My first experience in splenectomy for splenomyelogenous leukemia was with a patient who came to the Clinic with a greatly enlarged spleen, a white cell count of 300,000, and a history of having had the disease for two years. There had been great improvement under x-ray treatment; at one time the white cells were reduced by it to below 50,000, but, as regularly happens, the x-ray had finally lost its effect, and the patient's condition on examination was worse than it had been at any former time. The patient herself was greatly impressed with the definite connection between the size of the spleen and her condition, and was anxious to have the spleen removed. I operated and the patient recovered from the operation uneventfully. Within ten days the white cells had dropped to less than 40,000 and she was greatly improved. She lived in good health more than two years following the splenectomy. On the basis of this experience, we have in a number of instances reduced the size of the spleen with radium until the blood count approximated the normal, and then removed the spleen. We have splenectomized twenty-nine patients for splenomyelogenous leukemia with one operative death. This patient died from pulmonary embolus fourteen days after operation. Seven of these twenty-nine patients are known to be alive and in good condition more than three years following operation, four more than four years, and one more than five years. I can not believe that these patients are cured, but the experience has been interesting and suggestive.

It is possible that we recognize leukemia as a disease only after it has reached the hopeless stage, or that it is a terminal condition of a much more common, although unrecognized, malady. These are interesting problems which can not now be answered. Leukemia has been called a cancer of the white cells. The leukemic spleen is not adherent, as a rule, and after it is reduced by radium is removed readily.

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## THE DIAGNOSIS OF FOREIGN BODIES IN THE BRONCHI\*

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My object is not an endeavor to discuss all the phases of this subject but rather to bring before you certain points in the symptoms and signs which bear particularly on the diagnosis of foreign bodies in the bronchi. You may regard the subject as belonging to the curiosities of medicine rather than to every day work, but there are many cases of foreign bodies in the bronchi which are unrecognized and no one knows when he may meet a case. The number of patients who have carried a foreign body for years without any suspicion of the fact is a proof of the frequency with which they are missed. A great deal of gratitude is due Chevalier Jackson both from patients and

\*Presented at the Tri-State Medical Association, Milwaukee, November, 1921.



from members of the profession. He has saved many patients and instructed us on a subject of which we knew little.

First in the question of diagnosis is the need of having the possibility of a foreign body in a bronchus in mind in the investigation of every puzzling case of respiratory disorder. If this is done and the matter considered it is evident that the chances of correct diagnosis are increased. If it is not thought of, only some additional evidence, such as from an x-ray examination, may set us right, but this only in the case of foreign bodies which show in an x-ray plate. Probably 15 per cent of all foreign bodies do not and it is for the recognition of these the study of the symptoms and signs is so important.

*History*—It is striking in going over the histories, especially in the cases of long duration, to note how little attention was paid to this in some instances. For example, one child insisted that she had aspirated a foreign body but no one paid any attention to her story. A recurring cough received little attention until its becoming almost constant many years later suggested an x-ray examination which proved the truth of her statement. This inattention is perhaps partly due to the lack of recognition of the fact that a foreign body may be aspirated into the larynx with comparatively little distress or disturbance. There are numerous instances in adults in which they knew what had occurred and were able to give an account of the symptoms, which may not be severe. In other cases there is not the least suggestion in the history which gives any clue as to the time of aspiration. In young children there may be no possibility of getting any history if the child was alone at the time of aspiration. Careful enquiry may give a clue and in the case of the most deadly of all foreign bodies—the peanut—it is often possible to find that the child had been given or obtained a peanut. Evidently a history of cough dating from the extraction of teeth under anesthesia is significant.

*Symptoms*—These must vary with the character of the foreign body and all grades from slight discomfort with some cough to symptoms of great severity may result. A safety-pin in a bronchus may give few symptoms, but a seed or a nut in the trachea or a peanut in a large bronchus may cause the most acute respiratory distress. There are all variations from slight discomfort to the most severe dyspnoea. At the time of and shortly after aspiration there may be discomfort or pain and paroxysms of cough. These may be of short duration if the object passed into a bronchus, but should it remain in

the trachea varying grades of obstruction occur and consequently varying symptoms. It is convenient to separate the symptoms of what may be termed acute cases from those of longer duration, which may be called chronic. The symptoms in acute cases may be largely mechanical, due to marked obstruction in the larynx and trachea or to irritation set up by the foreign body with resulting swelling and obstruction. The mechanical symptoms require no discussion as their nature is evident. The symptoms due to irritation are shown in the peanut cases in which a most intense purulent laryngo-tracheo-bronchitis results. Here the picture is of an acute respiratory tract inflammation with dyspnoea and distress.

In the chronic cases the symptoms are such as result from a local lesion which may irritate a bronchus or partially or completely plug it. Cough is invariable, slight or marked, constant or paroxysmal depending on the condition. Should abscess or bronchiectasis result the usual symptoms result. Pain is not necessarily prominent but may be fairly marked.

*General Features*—These evidently will vary with the character of the foreign body, the changes it has produced and the complications. A safety-pin may give no general features while an object which plugs a bronchus may be accompanied by infection or bronchiectasis followed by an abscess. Hence there is no one description which can be given. What may be termed the very acute cases—as from the aspiration of a peanut—show the picture of a very intense toxæmia with features suggestive of a general acute respiratory tract infection. The cases in which a body is aspirated but does not plug a bronchus may give very little in the way of general disturbance. Chronic cases show features dependent largely on the secondary changes, such as purulent bronchitis, abscess and bronchiectasis.

*Fever*—This is frequent and may show many variations. An irregular curve is common both in acute and chronic cases. In the latter the curve is that of sepsis with frequently a large excursion in the twenty-four hours.

*Dyspnoea*—In the acute cases this is extreme and may suggest laryngeal diphtheria, a probable error as there may be considerable laryngeal obstruction. The height of the fever is against this diagnosis. In the less acute cases there may be dyspnoea only on exertion or movement. In children the act of crying or a change in position may bring on dyspnoea.

*Cyanosis*—This may be extreme in the acute cases but is rarely marked otherwise.

*Clubbed Fingers*—This is a common change in long continued cases but differs in no way from that due to any chronic thoracic septic process.

*Growth*—In children with a foreign body present for some time there may be marked interference with growth. In such cases there is usually septic absorption.

The physical signs which are most important may be summarized as follows:

1. *Inspection*—In every case seen by me there has been definite diminished expansion on the affected side. If the foreign body has shifted from one side to the other or is situated at the bifurcation of the trachea the expansion may be decreased on both sides. In some cases in which the foreign body was a pin, decreased expansion was the only sign. If the foreign body has acted as a valve and allowed air to enter but not to escape, the affected part of the lung will be distended and that part of the thorax be fuller—but the expansion is less. The extent of movement of the diaphragm is important to note.

2. *Palpation*—The vocal fremitus varies with the condition present. If a bronchus is completely plugged, vibrations will be absent over the supplied portion of lung. If the closure is intermittent the vibrations may be absent at one time and present at another. If the bronchus is partially obstructed, there may be a decrease in the vibrations. In young children it may not be possible to gain much information from the study of the fremitus.

3. *Percussion*—Evidently the findings must vary greatly. With a ball valve action of the foreign body the affected portion of lung becomes markedly emphysematous and hence yields hyperresonance or tympany. With complete plugging of a bronchus there will be flatness over the affected portion of lung as soon as all the contained air is absorbed. If the plugging is not constant there may be some resonance at one time and none at another but there is usually some grade of dullness. The sense of resistance will vary with the condition present. With collapse of a portion of lung there is likely to be tympany for a time. There may be varying grades of combinations of dullness and tympany, especially in children, in whom hyperresonance and tympany are common. These are often very confusing, but a careful comparison with the note elsewhere will usually lessen the difficulty.

4. *Auscultation*—The most diverse findings are to be expected and the signs may vary from hour to hour if the bronchus is not completely plugged. The degree of collapse of the lung, the amount of contained air and fluid, the extent

of fibroid change, the presence of abscess or bronchiectasis, all influence the signs. Over a lobe, the bronchus of which is completely plugged, as a rule the breath sounds are absent but occasionally, and especially in children, distant breath sounds may be heard. Over the portion of lung supplied by a partially obstructed bronchus, the breath sounds are harsh and rough with prolonged expiration, accompanied by many rales, usually coarse, sometimes bubbling and with both inspiration and expiration. Over other parts of the lung of the affected side and on the other side the findings depend on the amount of irritation set up and the presence of secretion. Rales may be heard everywhere in the acute cases.

There are several special points worthy of notice.

1. With some foreign bodies in the trachea, such as a melon seed, there may be very curious sounds produced, quite unlike other sounds connected with the respiratory tract, and very suggestive of the diagnosis. These sounds have a flapping quality.

2. In some cases in which there was a small metallic foreign body in a bronchus, not sufficiently large to cause any marked obstruction, very fine rales of a curious character have been heard. These have been described as "tissue paper" rales, and are such as might be produced by the movement of the finest grade of tissue paper. They have been heard at the end of inspiration and are much finer than the fine crepitations heard at the early stage of lobar pneumonia. On a hasty or careless examination they are so fine that they would not be heard. I have never heard similar rales in any other condition. Naturally one hesitates to say that these are absolutely peculiar to a small metallic foreign body.

3. The "asthmatoïd wheeze." This is a sign of considerable value if present, but no weight should be placed on its absence in excluding foreign body. This is a wheezing sound which may be heard usually close to the open mouth of the patient, either by listening with the ear, or sometimes if the bell of the stethoscope is held close to the mouth. It is usually brought out best by having the patient make a forced expiration. The wheeze varies a great deal in loudness; sometimes it can be heard at a considerable distance from the patient. If present, it is usually most marked during expiration.

There are certain occurrences which may modify the clinical features and cause difficulty in diagnosis. Among these are:

1. *Change in Position of the Foreign Body*—If the object has been on one side for a time and



then is dislodged, reaches the trachea and goes down a bronchus of the other lung, a very puzzling set of signs results. A foreign body may be dislodged, reach the trachea and then be caught at the bifurcation, giving rise to signs on both sides. In the absence of any history of a foreign body, the diagnosis may be very difficult for some days as signs persist on the side first involved.

2. *Symptoms Due to Secretions*—Evidently these may reach other bronchi than the one affected, or be carried over to the bronchi of the opposite side. The signs of a foreign body are found on the affected side and those of a varying degree of bronchitis in other lobes or in the other lung. Difficulty may come from a foreign body in the œsophagus causing secretion which is carried up and passes into the trachea, usually setting up a diffuse bronchitis.

3. *Previous Bronchoscopy*—If this has not been skillfully done, there may be considerable trauma and when the patient is seen later it may be difficult to say which signs are due to it and how much to a possible foreign body. I have seen recently two patients with Dr. Jackson in whom bronchoscopy (done elsewhere) had caused severe trauma and in whom we were never able to find any evidence of a foreign body. In both these cases the foreign body was supposed to be a substance which would not show in the x-ray plate. The chief aid in diagnosis in these cases, is in waiting until the symptoms and signs due to the bronchoscopy have had time to disappear.

Rare accidents may give very complicated pictures. Following bronchoscopy (done elsewhere) pneumothorax occurred on the affected side. As this foreign body was one which did not show in the x-ray plate, the difficulties of diagnosis are evident. Even before the air was absorbed it was possible to be fairly sure of the condition by x-ray study.

Mention should be made of special groups of cases in which the diagnosis is most often missed.

*Arachidic Bronchitis*—Drs. Jackson and Spencer have used this term to designate bronchitis which follows the aspiration of a nut, especially a peanut. The severity of the symptoms is in indirect ratio to the age. It is a very severe and dangerous condition in young children, which may be mistaken for laryngeal diphtheria, infective laryngotracheitis (from some cause other than a foreign body) or broncho-pneumonia. The absence of breath sound over a lower lobe has led to the diagnosis of empyema. The children are usually very ill, showing dyspnoea and restlessness, often extreme toxæmia, cyanosis, severe

cough, sometimes paroxysmal, and possibly a pink tenacious purulent sputum if the child is old enough to expectorate. The picture is suggestive of a very severe broncho-pneumonia, often with evidence of laryngeal obstruction due to the local swelling. The signs of obstructed inspiration may be marked. In some cases the cyanosis is succeeded by pallor, suggesting circulatory failure. The "asthmoid wheeze" is often present. There is high irregular fever with a rapid pulse and respiration rate. The thorax shows asymmetry, as the affected side is often over-distended but it shows less respiratory movement. Percussion over the affected side may show hyper-resonance or tympany, if the lung is over-filled with air (ball-valve action). On auscultation the breath and voice sounds are decreased or absent over the affected lung. Many rales, usually loud and coarse, sonorous and sibilant are heard, and they may be equally numerous and loud on both sides.

The diagnosis of *broncho-pneumonia* may be suggested but the evidence of involvement of one lobe or one lung, the absence of dullness, the breath sounds being harsh but not tubular, and the absence of fine rales should prevent this mistake. From laryngeal diphtheria, the high fever, the negative bacteriological examination, the fact that the voice is not lost, the presence of local signs in one lobe or lung should assist. When there are marked signs in a lower lobe, due to the bronchus being plugged, the diagnosis of empyema has been made but the signs elsewhere, the absence of the resistance so characteristic of empyema, the area of dullness (corresponding to a lobe) and an x-ray study should prevent this error. The use of the needle should rarely be necessary. Infective laryngo-tracheitis may cause difficulty, but the absence of any local signs pointing to involvement of one lobe or one lung should soon settle this question. Emphasis is laid on the value of inspection as showing local change.

Some of the cases in which seeds have been aspirated give great difficulty. If they plug a bronchus there should be comparatively little difficulty, but a small seed or a small portion of a nut may only partially obstruct. An example is under observation at the time of writing. A child aged twenty-seven months aspirated portions of an almond nut. Dr. Jackson removed one portion from the bifurcation of the trachea and another from the left main bronchus. There was a very intense laryngotracheitis which required tracheotomy the next day. Fever has continued with the expulsion at times of very foul material from the tube. A week later, the child showed less ex-

pansion of the lower right thorax, with varying degrees of percussion note and loudness of breath sounds. Does this mean that a small portion of the nut is in the lower right lobe bronchus? If so, it does not plug it entirely. Or are these signs due perhaps to secretions which gravitate to the lowest part and more on the right side? (The subsequent course suggests the latter explanation.)

*Chronic Cases*—In these the foreign body usually plugs a lower lobe bronchus. The signs are usually clear—the bronchus is plugged. Two errors are common, a diagnosis of empyema or tuberculosis. Sometimes an abscess or bronchiectasis may be recognized, but the foreign body is overlooked. The diagnosis of empyema should be excluded by the area of dullness, the resistance over which is not that of fluid, the use of the needle and an x-ray study. As to tuberculosis, there is no excuse for this error. It is very rare to have a basal tuberculous lesion without apical involvement, and a diagnosis of chronic tuberculosis without tubercle bacilli in the sputum is to be looked on with great suspicion. If abscess or bronchiectasis is recognized, only the thought of a foreign body as a possible cause may clear the matter. The error for which there would be more excuse than any other is thickened pleura but apparently this is rarely made. The greater error of diagnosing empyema is the more common one. There may be some thickening of the pleura over the affected lobe.

It is evident that the diagnosis must be much more difficult in the case of foreign bodies which do not show in the x-ray plate. This emphasizes the value of careful study of the signs in cases which do show, so that the knowledge gained can be applied to the other group. In some cases also the signs may suggest the need of an x-ray plate. One phase of the x-ray study is of interest as a result of the study of Dr. Jackson's patients and I hope that Dr. Manges will not mind my mentioning it. Dr. Manges can diagnose the presence and position of a foreign body which does not show in the x-ray study about as accurately as one which does. This resulted from a careful study of all cases with especial attention to the changes in the lung. We should try to do the same by means of physical signs. No better example of the value of this can be shown than by the recognition of a small portion of a foreign body remaining after the main part has been removed. This occurs, for example, when several pieces of a nut have been aspirated. The larger portion or portions may be removed and a smaller piece remain.

In conclusion, remember the possibility of a foreign body in every case of doubtful respiratory tract diagnosis—and also in what may seem to be a perfectly clear case. Study the physical signs carefully over and over again. Watch carefully from day to day and remember that rule of thumb methods are not sufficient—the signs in each patient must be carefully observed and then studied. If we remember that the presence of a foreign body has to be excluded, our mistakes will be reduced to a minimum.

## FRACTURES OF THE LOWER END OF THE RADIUS\*

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In presenting this class of fractures I am dealing with one of the most frequent surgical conditions that the medical practitioner has to treat. I will not attempt to advance any new ideas relative to the mechanism of production of the fractures or to their treatment; but my aim is to stimulate renewed interest in this very important class of fractures.

Colles first described fracture at the lower end of the radius in 1814, and although he confused it somewhat with dislocation of the wrist, which was supposed to be much more common, his name has been rightly applied to this injury, since better observation on dislocation of new cases has led to definite knowledge on the subject. The x-ray has aided materially to our knowledge and understanding of these fractures, and their character is well understood from the standpoint of location and displacement.

That fractures of the lower arm, or base of the radius, should be of such frequent occurrence one readily appreciates when the mechanism of production is understood. A fall, and the force of the fall broken by an outstretched arm with the hand in extension, are the usual conditions from which it results. In the course of such an accident, forcible bending back of the hand with over-extension of the anterior common ligament of the carpo-radial joint is produced. Strain is brought to bear on the projecting anterior lip of the lower end of the radius. The slipping first row of carpal bones as it moves in the cup-like cavity of the lower articular surface of the radius furnishes the mechanism through which the force is transmitted into a cross-breaking strain upon the bone into which the ligament is inserted, with the result that that portion of the bone is torn off.

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The carpal bones and the meta-carpals are joined together with such firmness that but slight motion is permitted between them. In the movements of extension and flexion at the wrist, they act practically as one bone. When the fall occurs, the bones are locked in this position; the elbow also is locked by muscular and ligamentous action, and we have converted the arm and hand into a strut, which at the moment striking becomes for all practical purposes, a column with a small inclination to be sure, but very nearly perpendicular, weight above and the resistance below, and the laws applying to stress in struts and columns apply.

Other anatomical conditions play a part in the mechanism of these fractures. At the lower extremity of the radius projects anteriorly a prominent lip, into which is inserted the anterior-radio-carpal ligaments, the extent of insertion of whose fibres is continued for a quarter of inch or more, above the articular margin. This ligament, though dense and strong, is sufficiently loose to permit a considerable latitude of motion backwards of the carpus upon the radius. The posterior radio-carpal ligament unites the bones together behind similarly.

*Direct Violence*—Fractures of the lower end of the radius produced by direct violence are comparatively rare, except in the variety known as the chauffeur's fracture. In the chauffeur's fracture the mechanism of production is caused by the sudden forcible back jerk of the crank handle, puts an unexpected and powerful strain on the lower end of the radius when the ligament is tense with the exertion of cranking, causing a transverse or diagonal fracture. (Figure 1.)

The literature up to the present time is still lacking as to a uniform and rational classification for fracture of the radius—for example I will cite two recent authors. Kaufmann divides radius fractures into the following groups:

1. Radius fracture without dislocation of the place of fracture.
2. Radius fracture with dislocation of the place of fracture.
  - a. Transverse and oblique fractures: 1. Automobile fractures. 2. The volar displacement of the peripheral fragments (so called) Smith-Linhartscher type.
  - b. Comminuted fractures.
  - c. The fracture of the ulnar styloid process.
  - d. The fracture of the ulnar margin of the radius.

Pilcher in 1917, classified fractures of the lower end of the radius as follows:

1. Perpendicular wedge-like impact of the carpus against the articular cup of the base of the radius.

2. Splitting of the lower fragment by descent into it of the lower end of the upper fragment. Explosive splitting of lower fragment of radius. Backward displacement of lower fragment. Anterior displacement of the lower fragment. Outward displacement of



Figure 1. Chauffeur's fracture. Transverse fracture of radius caused by direct violence.

lower fragment. Epiphysal separation. Dorsal untorn periosteum. Incomplete fractures. Fracture of the ulnar styloid process. Associated fracture of the carpal bones. Associated injuries to the periarticular structures and diastasis of the ulna.

I will not attempt to make a classification but I believe that the classification mentioned by Pilcher is very comprehensive and will serve all practical purposes.

*Force of Impact*—In the ordinary accidents, resulting in a fracture of the base of the radius, other additional factors to that of avulsion enter. The most important of these is the remnant of the forward and downward impulse of the lower end of the radius, a force compounded by the weight of the body, and the velocity of the fall which has been sustained which remains after the force of avulsion, at first exercised by it is expended.

*Force of Cleavage*—It is conceivable that in the case of a sudden and violent fall, the force of which is sustained by the hand, the rounded articular surface of the carpal mass before the movement of the backward flexion is completed, may be driven up against the concave articular surface of the radius with such force as to split it, or perforate it, and cause the stellate longitudinal lines of fracture in the radial base.

*Impacted Fractures*—More frequently the

lower fragment of the radius is split into fragments by the descent; into it is driven the lower end of the upper fragment or shaft, after the transverse lesion has been accomplished. This impaction of the upper fragment into the lower one is generally present when the momentum of the fall has been great, as in falls from a height. The extent of the impaction is a fair index of the force which the elements of the wrist have had to sustain—the greater the space through which the fall has had its course, the greater the velocity attained by which the weight of the body is to be multiplied in producing the resultant force. The friability of the particular bone involved also is a factor that modifies the result in any given



Figure 2. Impacted fracture. Showing the impaction of the upper fragment into lower fragment.

case. In this class of cases the lower end of the radius is not only torn off, but as a part of the train of events if the backward movement of the lower fragment has not been great enough to carry it clear off the broken surface of the fragment, it is driven into the lower fragment, and splits it into secondary fragments, more or less numerous. (Figure 2.)

*Explosive Splitting of Lower Fragments of Radius*—This form of fracture is comparatively rare. The usual backward displacement of the upper fragment has not taken place before the denser cylinder of the upper fragment has been driven down into the cancellous tissue of the lower fragment, with such force that the pieces into which the lower fragment has been split, are driven off in various directions to the palmar as well as to the dorsal side. In this class of cases we find a marked shortening of the radius and an outward protrusion of the head of the ulna.

*Backward Displacement of the Lower Fragment of Radius*—The usual typical displacement that characterizes the ordinary fracture of the lower extremity of the radius is a movement towards the dorsum of the lower fragment. This

is the chief cause of the deformity which proclaims the fracture. It is characterized by the so-called fork handle deformity with the line of



Figure 3. Exaggerated backward displacement of the lower fragment of the radius, dorsal dislocation of the carpal bones, with a compound dislocation of the ulna.

fracture within three-fourths of an inch of the lower articular surface of the radius, extending obliquely downward and forward—thus permitting the lower fragment to be displaced upward and backward. This causes the articular surface of the radius to look slightly dorsalward, and more towards the thumb and the styloid process



Figure 4. Lateral displacement of the lower fragment.

of the radius to be raised to the level of the ulnar styloid, or even a little higher, and giving the hand a position of slight adduction thereby producing a distinct prominence of the lower end of the ulna. (Figure 3.)



### *Outward Displacement of the Lower Fragment*

—The immediate effect of the giving way of the radius and backward slipping of the carpal fragment is a movement of rotation in the direction of supination of the carpal mass around the head of the ulna. Not infrequently the strain upon the carpò-ulnar ligamentous fibres is so great that the styloid process of the ulna is torn off. The broken lower end of the shaft of the radius is



Figures 5-A and 5-B. Anterior displacement of the lower fragment.

thrust forward and the expanded lower articular fragment is made to appear to have moved laterally. (Figure 4.)

### *Anterior Displacement of the Lower Fragment*

—In falls upon the wrist with the hand in forward flexion, it would seem theoretically possible that the lower end of the radius might be torn off. In this type of cases we do not get the typical fork handle deformity, but get a reversed Colles fracture. A typical Colles fracture always results from volar pressure mechanism; and it never results from dorsal pressure mechanism. (Figure 5-a and 5-b.)

*Epiphysal Separation*—In children and adolescents up to the age when the conjugate epiphysal cartilage becomes ossified—nineteenth to twentieth year—the result of a cross-breaking strain upon the lower end of the radius may be that the fragment that is torn off, is composed practically of the epiphysis only. Owing to the relatively

small size of the bony nucleus of the epiphysis during early childhood, the base of the radius during this period partakes of the tough and



Figure 6. Epiphysal separation—anterior posterior view.

elastic characteristics of the predominating cartilage, rather than of the friability and density of bone. The cases of epiphysal separation recorded are practically limited to the years between twelve to twenty. Epiphysal separations



Figures 7-A and 7-B. Showing a common location of a fracture in children. Break above the epiphysal line due to the elasticity and resiliency of the osseocartilaginous tissue.

are comparatively infrequent, because of the elasticity and resiliency of the osteocartilaginous tissue of childhood. (Figure 6 and Figure 7-a and 7-b.)

*Incomplete Fractures*—Under this group we must place fracture of the radius in which the lower end is but partially torn off. In this same class belongs the longitudinal splits and the radiating fissures. Irregular longitudinal fissuring may be observed without transverse fractures, with transverse fractures, and with oblique fractures. This variety is rather unusual and is generally the results of transmitted force directed upward through the hyperflexed palm and carpal bones. (Figure 8.)

The association of a fracture of the styloid process of the ulna is produced by a sheering process. The break in the radius lets the ulna down so that the styloid meets resistance and is sheered off. (See Figure 4.)

*Symptoms*—In nearly all cases we have severe pain about the lower end of the radius and ulna. Function of the wrist and forearm is impaired. On pressure over the fractured area, the patient experiences localized tenderness. Crepitus is a symptom which is often absent, and it causes pain



Figure 8. Transverse fracture with longitudinal splits in lower end of upper fragment.

to the patient only when demonstrated. Many of these fractures are impacted and some are comminuted, and crepitus is not demonstrable without undue force.

Swelling is present to a greater or less degree about the wrist joint. In the classic fracture, the normal radial arch is gone, and on the extensor surface, swelling over the upper end of the lower fragment extending downward for a variable distance will be found. The lateral view will give the so-called fork handle deformity. The hand is usually abducted, and a broadening of the wrist is noticeable. Posteriorly, there is a loss of prominence of the styloid process of the ulna with a corresponding prominence of the same on the flexor surface of the wrist, bringing it in a closer relationship with the pisiform bone.

In the non-classic fractures of the lower end of the radius, the symptoms above described will be wholly or in part absent, and when present, may

show specific difference, so each case must be judged upon its own merits as no two fractures may give the same train of signs or symptoms.

*Diagnosis*—The diagnosis of fracture of the lower end of the radius is made by a careful inspection, palpation and court of last appeal, the x-ray, and resort to it should be made whenever practicable, to both confirm and correct the diagnosis, and later to demonstrate the degree to which proper reduction of the fragments has been obtained.

*Differential Diagnosis*—To differentiate the various bone lesions about the wrist joint is very essential from a therapeutic standpoint, as displacements must be corrected and articular surfaces protected. Conditions that may be mistaken for the classic fracture are backward and forward luxation at the radio-carpal articulation, medio-carpal backward luxation, chipping off at the posterior edge of the radius at the radio-carpal joint and of the anterior edge of the radius. The x-ray in all of these cases should be universally employed.

*Prognosis*—Bony union is almost invariable, but in many cases too prompt. In neglected cases after a month, the deformity is marked and it is very difficult to break up the union. In adults, with the best reduction possible, some shortening of the radius or tilting of the lower fragment, thickening of the wrist and prominence of the ulnar styloid may be expected. Function is frequently good even with a marked deformity. Prognosis in most cases depends upon the manner of reduction and the vital question of after treatment.

*Treatment*—Before attempting to treat an injury about the wrist joint, the physician or surgeon should have a clear conception as to the exact nature of the fracture. Reduction should not be attempted until such conception has been acquired.

A careful x-ray study should be made of all injuries about the wrist joint. The x-ray tells us two things which are important. Are the two planes of the wrist joint, lateral and anterior posterior, restored so as to approximate normal? If the lateral plane is not restored, it is quite obvious that the entire hand will be thrown towards the thumb side, abducted, the ulna will be unduly prominent, and if the anterior posterior plane is not restored, it is equally obvious that a certain amount of backward displacement of the hand will remain and the anterior curve of the wrist be exaggerated.

A good guide as to whether or not a complete reduction has been accomplished is to take the



x-ray plate (Figure 9) and erect a perpendicular A-B on the ulna as this bone is rarely fractured. Draw this line as nearly in the longitudinal center as possible. Then draw a line through the lower surface of the ulna, cutting through the enlargement of the lower end of the radius. B-C is this line. From B draw a line to the lower inner side of the radial styloid, B-D. In a great majority, this angle will be found to be between 14 and 20 degrees. Should there be any great deviation in the plane of the articular surface, it will show in the reading of this angle. The nearer the line D-B comes to C-B the greater the change in



Figure 9. A normal lateral plane. Angle C. B. D. usually between 14 degrees and 20 degrees.

the lateral plane of the joint, and the smaller the angle. It is better to be forearmed and to have a definite idea of what is coming in the way of permanent deformity than to have a patient discover this later for himself.

There are many methods of reduction which may be used in reducing fractures of the base of the radius, but no one method of reduction is applicable to all cases. The reduction must bring the displaced and rotated fragment down into place. When it does, the hand will lie laxly in a position of flexion if the forearm alone is supported, and the silver fork deformity will have disappeared.

*Anesthetic*—In many instances fractures of the radius can be reduced without an anesthetic but

my experience has been that a better reduction can be obtained with more comfort to the patient when a little gas or ether is administered.

*Splinting*—Maintenance of reduction may be accomplished by the use of any of several forms of dressing. A gypsum splint moulded to fit the dorsal or the flexor surface when the wrist is somewhat flexed, cannot be improved upon. A padded narrow wooden splint supplied to the dorsal surface of the forearm and hand, extending from a few inches below the elbow to a point just above the meta-carpo-phalangeal joints will steady the fragment. A small pad should, however, be placed on the palmar side in the concavity of the base of the radius.

The entire question of splinting resolves itself into two factors—namely, to retain the reduction and the preservation of the normal or approximate normal radial arch.

*After Treatment*—The main point in regard to the after treatment is early motion. In the more serious cases, motion is given the joint every day for ten to fifteen minutes, at first passively, and on the third or fourth day, active motions are substituted for passive. Do not permit the joints to stiffen as this can be easily prevented by early massage and early active and passive motion in every case.

*Operative Treatment*—Indications for operative treatment are limited and personally I have never seen a case that had to be reduced by an open operation.

#### CONCLUSION

The writer wishes to emphasize the following:

First—No reduction should be attempted until a careful x-ray examination has been made.

Second—Accurate reduction of the fracture is of vital importance.

Third—Proper fixation splints should be applied.

Fourth—Early passive and active motion should be instituted beginning within three days.

Fifth—Early and proper massage.

Sixth—Remove the splints as soon as possible.

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### Discussion

**Dr. Alva P. Stoner, Des Moines**—From the standpoint of deformity and in many other respects, especially impairment of function of the wrist-joint afterwards, this class of fractures is the most important of any that we have had to contend with. In 1912 Dr. J. B. Murphy, in a paper read before the American Medical Association, made the statement that from 85 to 92 per cent of these fractures resulted in more or less deformity and impairment of function. This percentage is perhaps a little high, nevertheless, we find that a very large percentage do result in disturbance of function. Fracture at the lower end of the radius is usually caused by a fall upon the palm of the hand, and is known as Colles' fracture—a fracture which results from a force expended in this direction (indicating). As Dr. Bendixen stated, if there is any displacement whatsoever, the lower fragment is invariably rotated backward and outward. Dr. Colles described the fracture over 100 years ago. Up to that time these fractures were treated either as sprains, or dislocations of the carpal bones. Any other kind of a fracture at the lower end of the radius is not a Colles fracture. One point which Dr. Bendixen did not, I believe, call attention to, is that in a strictly Colles fracture, especially where there is rotation of the lower fragment, almost invariably there is more or less dislocation at the lower end of the ulna; the internal lateral ligament and the triangular fibrocartilage are torn, and many times, as the essayist stated, the styloid process of the ulna is broken off. Now, we have to treat a dislocation as well as a fracture of the lower end of the radius. Dr. Bendixen stated that all of these fractures should be x-rayed. That is true. Sometimes, however, especially in the country, one may not have access to the x-ray. Where fracture exists I have found that there is always more pain complained of along the line of fracture. This is simply a diagnostic point which may be of value where you do not have access to the x-ray. In regard to treatment, I think we owe to the late Dr. J. B. Murphy as much for his advice as to the best method of reducing a fracture of the Colles' type, as for any other one thing he taught us in relation to joint injuries. Up to the time of bringing out this method of handling these cases, the popular method and about the only method practiced was a straight pull forward. The proper method of making reduction has been given in detail by the essayist—hyperextension, at the same time pressing the lower fragment into place. These are very difficult fractures to reduce by any other method. However, usually they are easily reduced by this method. With reference to further treatment of these cases, I believe in early massage. I was well pleased with Dr. Bendixen's idea of early massage. I begin within forty-eight hours to produce passive motion. Leave the fingers free and encourage the patient to work his fingers as soon as he is out from under the anesthetic. Never undertake to reduce one of these fractures without giving the patient an anesthetic.

**Dr. John E. Brinkman, Waterloo**—I believe that the medical profession is under lasting obligations to Henry Ford, for he has perhaps furnished us with more Colles than any other man. There are two points I wish to make: (1) We sometimes have a fracture with practically no dislocation, and we content ourselves with simply splinting the case. I think every case of impacted fracture should be first thoroughly broken up. Do not be content to do up a fracture simply because the alignment is good, but break up the fracture. Administer an anesthetic, for you cannot apply a splint to any fracture without the patient has an anesthetic. (2) If the fracture is properly reduced you will not as a rule have much pain. When I have put up a fracture and the patient complains of a great deal of pain, I feel that the fracture has not been properly reduced. If proper reduction has been effected there will be very little pain. But be sure that you do not let an impacted fracture go and satisfy yourself with the simple application of a splint.

**Dr. J. S. Gaumer, Fairfield**—In quoting Dr. Murphy's teaching as to reduction of a typical Colles fracture with impaction, it seemed to me that Dr. Stoner missed an important point in this reduction. Dr. Murphy once said that reduction of a Colles fracture was simple, easy, and uniformly neglected. He stated that it was necessary first to break up this impaction, as has been said, and then with the thumb on the distal fragment to press down upon it. It seems to me that the most important point is hyperflexion of the wrist, which brings the fragments down into position and keeps them there. Since carrying out this procedure I know that I have had very much better results in treating Colles fracture, and perhaps hyperflexion is the most important point in this reduction.

**Dr. C. J. Rowan, Iowa City**—Dr. Bendixen used one phrase which is of great significance; that one must individualize each particular case. I was glad he did not refer to Colles' fractures as a class, but because the deformity and the amount of fracture and the accompanying injury differ so much in different cases he has stated that each case must be individualized. That is a very important point. In fractures of the lower end of the radius we must not be satisfied with a medium degree of reduction. In fractures of many bones, especially away from joints, a reduction may be considered good if we will get good bony union. In fractures close to the wrist-joint we must not be satisfied with bony union, but must secure very accurate reduction if we expect the function to be good. Therefore the use of the x-ray before as well as after reduction is very important. To his test for function, which comprised an anteriorposterior view as far as the alignment of the joint is concerned, I would add a lateral view, because it is very important in these cases that the tilting of the lower fragment be overcome so that the natural angle of the joint is preserved. Dr. Bendixen mentioned the fact that different splints might



be used with success, and I was especially glad to hear him say except circular casts. In fractures of this region circular casts have no place. Your difficulty of treatment comes in getting good reduction. If the fracture is properly reduced and if dressed in the right position there is not much danger of return of deformity, therefore a circular cast is not necessary, and might do a great deal of harm. Because we have a sprain in addition to the fracture there is a good deal of effusion into the joint, and the circular cast is likely to cause trouble. I disagree with the essayist in regard to early passive and active motion and massage. With proper reduction, with a retention apparatus that is not producing pressure, it is well to allow these patients to go for two weeks, then do away with the splint and allow the patient to voluntarily begin motion. From the start, without removal of the splint, encourage him to use the fingers. I have no doubt that Dr. Bendixen's results are just as good following early massage and active and passive motion, but I do not feel that these are necessary.

**Dr. F. R. Holbrook, Des Moines**—The mechanics of this fracture there is not much use in discussing. There is difference of opinion among observers. After all, that does not apply so much. The essential thing is the treatment. An early reduction, as the essayist has stated, is of paramount importance, and the next most important point is preservation of function. All fractures near or into joints have a double importance because joint function must be preserved and if it is necessary to sacrifice one or the other, you had best sacrifice the cosmetic result for function because a patient who is depending on his hands, as most of us are, for his living, will get along much better with a useful joint even if the arm is slightly deformed, rather than with a good cosmetic result and loss of function. Simple Colles' or simple transverse fractures with little or no displacement, once reduced, have a strong tendency to remain so. Nature has supplied a number of natural splints in the form of tendons and they have a tendency to hold the fragments in reduction. Personally, in some of these cases I have used little, short, narrow splints about six inches long with thenar and ulnar cutouts. Of course, the old cast method passed out years ago and is not used any more. Also in simple cases splints can be almost entirely done away with in a very short time. In some cases I have taken them off in ten or twelve days, supplying simply a tight wrist strap of adhesive plaster, allowing the arm to be carried in a sling and encouraging early motion. The best way to preserve motion is never to lose it, therefore in Colles' fracture the joint should be moved right from the start.

**Dr. Bendixen**—I am glad that so much interest has been renewed in this very important class of fractures. As my paper had to be limited I did not mention the subject of anesthesia. I believe that in every case of reduction, that the reduction should be made either under gas or ether anesthesia. I am

convinced that the x-ray should be used, and used as a control, not only to confirm the diagnosis, but to ascertain the position of the fragments and to determine what their relationship may be after the fracture has been reduced. Dr. Stoner stated that many times men living in the country did not have free access to the x-ray. I rather disagree with him. I believe that the x-ray is available to almost all practitioners. With modern transportation, the automobile, the doctor can readily transport the patient to one of the larger centers or to the nearest town where there is an x-ray. It is our duty to the patient to have an x-ray control so that he may receive proper treatment for a stiff arm means loss of function, due to improper treatment and neglect of taking x-ray pictures. Relative to the method of treatment favored by Dr. Rowan, that is a personal matter. What we are after is results. Dr. Rowan secures good results by his treatment, and I would not condemn that method because it is the interest of the patient that you have at heart, and the best possible results to be obtained are what you want. I still personally maintain that early massage, active and passive motion give the best results.

#### A PRACTICAL DISCUSSION OF MENTAL STANDARDIZATION\*

FRANK A. ELY, M.D., Des Moines

There is at present, a tendency on the part of psychologists and psychiatrists to reduce common sense observations and conclusions concerning the mental ability of patients, school children, convicts and industrial workers, to arithmetical formulæ. The statistical and percentage mania has invaded the precincts of our professional activities in a very formidable manner. It is not the purpose of this paper to ridicule any effort which may be made to reduce scientific conclusions to a concrete and workable formula, but to point out the fact that too close attention to detail, scientifically as well as otherwise, often blinds one to the real picture which he is intended to see, and should see without effort.

Some noted naturalist has said that intensive concrete observation while in the forest, frequently prevents the observer from noting real deviations from the normal or from detecting the camouflage of the denizens of the woods from the coloring of the forest itself. Intensive deference to laboratory observation very frequently blinds us to the obvious clinical phenomena which should lead the skilled diagnostician to a proper and easy diagnosis. What has been said relative to this matter in other channels of observation, is

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equally if not exceptionally true in the detection of mental arrestment or inferiority.

Any intelligent observer should be able to pick out an idiot. The detection of imbecility is almost equally easy. The moron presents a little more difficult problem, and the border-line or specialized mental defective is even more difficult to pass upon. The moron or border-line defective is frequently a relatively normal looking person, possessing in many instances, a superficial brilliancy and vivacity which is quite deceptive. Then too, many of these persons, especially the females, are possessed of attractive physical attributes which appeal to the sentiment of the observer and are apt to throw him off his guard.

The criminalistic border-line defective is by all odds the greatest medico-legal problem. Under this classification we have the individual whose life history is something like this—unstable criminalistic family history which often does not come to our notice unless we can gain an intimate knowledge of the family over a period of many years, and unless we are able to turn the rusty lock of the closet door which has long hidden the family skeleton. As a rule these persons have a normal birth history, and little if anything occurs to create suspicion up to the age of ten or twelve, about which time, truancy, lying, malicious teasing, petty thieving, obstinate selfishness, disregard for property rights, incorrigible disobedience, restlessness and inattentiveness to studies, call the attention of teachers, neighbors and juvenile court officers, to the fact that the individual in question is not quite as tractable and amenable to the rules of conduct which regulate harmoniously the lives of the rank and file of his playmates, as he should be. Following this, comes a period during which the offending individual occasions the teacher and parents a great deal of perplexity, as a result of which they vacillate between the use of moral suasion and corporal punishment—sympathy and exasperation. After a year or two, during which the delinquent continues to be a general nuisance and social misfit, the teacher comes to the conclusion that, judging by the other children, this child is not normal. The school psychologist is then consulted, with variable results. If there is a gross mental arrestment it is detected with ease, but if the case be a "border-liner," technical psychological tests frequently only serve to confuse the examiner's judgment, rather than help it, and it is here that ordinary common sense should cast the deciding vote, either for or against mental normalcy.

"The proof of the pudding is in the eating." If the child behaves normally it is probably normal;

if it behaves in a decidedly abnormal manner, it is probably abnormal. In making this statement I may arouse in your minds a certain degree of antagonism, but I trust you will reserve judgment until I have made my position more clear. In attempting to standardize anything we are obliged first, to seek a norm or unit of standardization, and this starting point or norm, is not an easy thing to find in a universe filled with individuals, the personalities of no two of whom are alike. In a sense, one might say that this is a technical impossibility. To this objection, I am ready to acquiesce, if the norm which is set up is too narrow and circumscribed. The native of Alaska cannot be judged by the same standard used to judge a Mayflower Bostonian, and in point of fact you cannot judge a Bostonian or Easterner in general, by the standards of the Middle West. Then too, a boy of fifteen cannot be judged by the standards set up for the man of age and experience. I might go on elaborating upon this phase of the subject at great length, but I will not do so, since the foregoing hints will adequately point out my meaning. On the other hand you will all agree that for a given individual of a given age, given heredity, given education, given physical health, and given social restrictions, there should be social behaviour which is more or less definitely defined so that even moderate deviations from the same may be recognized with reasonable ease.

We may say then, that social adaptability is the supreme test of mental normalcy. If we stop to take into consideration the broad subject of individuality and attempt to represent it graphically, as we do temperature variations on a hospital chart, we will note many waves, angles and curves, but just as a normal person's temperature may vary between 97.2 and 98.4 without being definitely abnormal, so may personality vary one way or another, and still keep within the bounds of normal. But if the curve shoots up five degrees as the result of hyperæmia of the ego, or becomes three degrees subnormal as the result of melancholic perforation of the ego, we should be able to decide that such variations above or below the normal personality are definitely morbid.

If thirty children all of the same age in a school room are happily amenable to the regular rules of conduct laid down for the pupils of that room, and one or two in spite of the most intelligent and kindly efforts of both teacher and parents, fail to adapt themselves to the prescribed regime, it certainly indicates that all things being equal, the two anti-social children are at least abnormal and in all probability, subnormal mentally. If five thou-



sand individuals in a given community of mixed population, can keep the law and have foresight enough to understand that the law is made for them as well as others, and from ten to twenty are criminalistic, should it not arouse suspicion as to whether the elements of superior social intelligence are present as a part of their mental equipment.

In dealing with the criminalistic high moron and border-line mental defective, which classifications include most of the tramps, paupers, prostitutes, and petty criminals, I have observed the following mental defects, most of whom are to be looked for in the higher branches of the psychic tree—in other words, they are within the realm of the higher specialization of judgment,—viz.:

1. Lack of inhibition, or will power as it is popularly termed.
2. Lack of ability to appreciate a serious future calamity which will result from some immediate personal gratification.
3. Lack of appreciation of public interests.
4. Lack of true affection or sentiment.
5. Lack of ability to profit by experience.
6. Lack of foresight in general.
7. Lack of stability.
8. Lack of ability for mental application and prolonged effort.
9. Undue amenability to persuasion.
10. Undue susceptibility to bad habits.
11. Undue tendency to egotism and autocratic bombast.
12. Tendency to public bravado while potentially cowardly; in other words, a tendency to be a bully.

There are undoubtedly many other characteristics which I have not mentioned and there are some that have been mentioned that overlap each other, but I have simply attempted to paint a word picture of high grade mental deficiency.

I fancy some one will say there are none of us who may not manifest some of these defects. My reply is, that all of us may have one or more of such weaknesses to a greater or less degree, but can you imagine a successful physician who has no sympathy, who has no self-restraint, who has no foresight, who profits not by experience, who disregards public welfare, who lacks mental application, who is autocratic, who is egotistic and a bully? If you can, then I am mistaken. I know of successful physicians who are egotistic, and who have a tendency to be bullies, and who are not always careful of the public welfare, but they have stability, are capable of prolonged effort, are fairly long on foresight, and possess other qualifications which spell ability, and which

enable them to fit with a reasonable degree of coaptation, into the social structure of their community. In discussing this subject, it might be of interest to consider the mental status of the religious, political and social zealot or fanatic. I prefer in this connection, to use the term zealot, as being a non-prejudicial term. A man is very apt to be a religious zealot as the result of early environment which included his education, and even though his views may be at great variance with those of many of his fellows, they are not necessarily an indication of mental abnormality, because he has been trained to think as he does. He may even believe himself divinely inspired without being insane or mentally abnormal, if it is one of the tenets of his faith to believe in modern inspired prophets. One would scarcely think the inhabitants of the Amana colony mentally defective, because some of them still may have hopes of a living modern prophet. On the other hand, if a formerly irreligious person without previous preparation of an environmental or educational sort suddenly believes himself to be the chosen of God, the probabilities are that he has gone wrong, mentally.

It is not strange that a man who sprang from the cotton fields of the sunny south has a leaning toward the democratic party and still has a subconscious belief in slavery, but the fact that the solid south swings over to the republican side when taxes mount too high, is a high tribute to its faculty of foresight and ability to profit by experience. Should a man however, adopt a political party without adequate reason and become a vociferous exponent of the same, advancing unsound and untenable arguments in its behalf, he then would lay himself liable to suspicion of mental unsoundness. If I, with my environment, education and nativity, should become a bolshevik, I should certainly expect you to suspicion my mental integrity, but for a Russian with no education, it is different, because he is only living up to his environment and Russian traditions. I think you will all agree with me when I say that for an Iowa corn bred, corn fed, individual who has all his life lived in the center of our prosperous state—who has to scratch his head to remember a year when we ever had a complete crop failure, and whose eye daily scans a broad horizon of providential beneficence—to become a loud mouthed, contentious, bolshevik is presumptive evidence at least, of mental instability.

So we see that sociability when used in its broad sense meaning social adaptability, is after all, the true test of a well developed intellect. Is it fair to rule out mental arrestment simply be-

cause an individual can give the sense of a selected reading, tell the difference between a republic and a monarchy, tell how a piece of folded paper will look after it has been cut and unfolded, or give differences of abstract words? During the war I noticed an article in one of our medical journals by a Chicago psychologist, who stressed some soldier's inability to tell what the P. and O. line meant, as an indication of mental deficiency, apparently not considering the fact that what he knew, appealed to him as being a thing that every one should know.

In our work at the Des Moines Health Center, I have been pleased to note a marked tendency on the part of our psychologist to conservatism in claims and statements, and this is as it should be. On the other hand, I have observed a tendency on my own part and that of many others interested in the subject of mental standardization, to sidestep an opinion when we did not have some definite group of questions or tests to back us up. With this in mind, I determined to make this phase of the subject, the theme of this short paper.

In conclusion I wish to emphasize the following points:

1. That whatever our technical mental tests may be, in the last analysis the conduct of the individual is of paramount importance, and that any conduct at marked variance with the heredity, environment, and education of the individual, throws just suspicion on his mental integrity.

2. That a marked and abrupt change in conduct speaks for insanity, whereas a life long continuity of unusual conduct speaks for mental deficiency, either frank or subtle.

3. That social adaptability should be the natural, normal, mental reaction of an individual, in direct proportion to the advantages or restrictions of his environment.

4. That a preponderance of deficiencies in foresight, inhibition, stability, continuity of effort, social responsibility, sympathy, and affection, in a given individual, are just as true and infallible signs of arrested mental development as are the more tangible signs which may be technically demonstrated by the Simon-Binet tests.

5. That psychologists and psychiatrists should consider these higher types of mental deficiencies more seriously and declare themselves with more decision, even though they are obliged to base their opinion on the conduct of the individual rather than upon any series of technical tests. In other words, psychologically speaking, "The proof of the pudding is in the eating."

## SURGICAL INJURIES TO THE BILE PASSAGES\*

A. E. ACHER, M.D., Fort Dodge

Not long ago a woman thirty-five years old who had been under my observation for about two years with intermittent gall-bladder attacks took my advice to have her gall-bladder removed. The operation was not particularly difficult. Everything went along nicely for several days when to my great surprise she began to show evidence of jaundice which gradually grew more and more pronounced until she was just about as yellow as any case of jaundice I had ever seen. The stools were typically slate colored and the patient's general condition became toxic and depressed. You can imagine my feeling about this time. But as time went on it developed that I had not done my worst but came very near to it. Fortunately I had put in a drain down to the cystic duct and had used plain cat gut in my ligations. About three days after the jaundice was fully developed bile began to make its appearance at the surface coming along the line of the drain. This flow of bile became more and more pronounced until it appeared that the whole supply of bile was thrown out on the surface of the body. The jaundice gradually cleared up but the stools continued clay colored. I was still very much worried about the case. But after a time to my great delight the stools began to change back to normal color, the flow of bile to the surface of the body diminished and finally stopped entirely and the patient went on to a good recovery.

There is no question in my mind that in ligating either the cystic duct or some of the bleeding points I either ligated the common duct entirely or encroached upon it from the side sufficiently to shut off its lumen. The drain and absorbable suture material very probably saved me from a very sad and humiliating experience. This case was a warning to me and is related first, to emphasize the real purpose of this paper, which is to sound this warning to you that we may all approach this line of work with a little more caution and care in the future.

There is a tendency sometimes, especially after things have been going well for a considerable time, to relax just a little, and probably get just a little too sure of things, until suddenly we are face to face with the results of an error probably to the lasting detriment of the patient and to our great humiliation and embarrassment. I say to the lasting detriment of the patient because it is a

\*Read before the Austin Flint-Cedar Valley Medical Society.



fact, that the repair of injured bile passages involves some of the most difficult and delicate surgery known to the profession, and at times after repeated attempts, results in final and complete failure. Can you imagine any more deplorable condition for anybody than a permanent biliary fistula. The fact is, however, that these people usually succumb in the repeated attempt to restore them to a normal condition. Then there is another calamity which may happen and that is the severance of the hepatic artery, which results in death as has been demonstrated by experiments on animals.

The most important factors in the etiology of injuries of the bile ducts are:

1. The lack of knowledge on the part of the majority of surgeons that variations in the mode of union, course and length of the cystic, hepatic and common ducts are far more common than our textbooks on anatomy have led us to believe.

2. The presence of anomalies in the mode of origins and course of the cystic and hepatic arteries resulting in hemorrhage, and the inclusion of the bile ducts, either in the grasp of the artery forceps, or in a ligature applied around the bleeding point.

3. The obliteration of landmarks as the result of inflammatory changes.

4. The inadequate exposure of the field of operation.

5. The closed method of operation.

In considering this subject, it is well to have in mind the usual relations of the anatomical structures concerned. Our text-books tell us that the gall-bladder is on the under surface of the liver; that it measures from two and one-half inches to four inches; that it is pyriform in shape; that the cystic duct arises at the neck of the gall-bladder; that it is a tube one and one-half inches long; that it unites with the hepatic duct at an acute angle; that the hepatic duct is two inches long; that the junction of the two ducts takes place a distance of about one inch from the intra-hepatic portion of the hepatic duct; that the common duct is about three inches long; that it passes down between the layers of the lesser omentum with the hepatic artery to its left and in front of the portal vein; that it passes behind the first part of the duodenum, and then between the second part of the duodenum and the head of the pancreas, and ends in the lower part of the second segment of the duodenum; that the hepatic artery ascends in the lesser omentum or gastro-hepatic ligament with the common bile duct and hepatic bile duct parallel and to the right of it, and with the portal vein behind it; that the lesser omentum

bearing these three structures forms the anterior boundary of the foramen of Winslow; that the cystic artery is a branch of the hepatic; that it courses forward and downward and passes posterior to the hepatic duct and through the angle formed by the hepatic and cystic ducts; that it passes parallel and along side of the cystic duct. Now these statements are no doubt true in a majority of people. But it has been found that there are many variations from the typical relations. The junction of the cystic and hepatic duct may take place anywhere, from close to the liver down to the duodenum, and where the junction takes place low, the cystic and hepatic ducts may run along parallel and close together.

In this case it would be an easy matter to ligate and cut off the hepatic duct with the cystic duct. Only a careful examination and separation of the two will enable one to avoid this mistake.

The gall-bladder instead of being smooth pyriform in shape has been found to vary in form. The pelvis of the gall-bladder may sag over the junction of the gall-bladder and cystic duct and may be found with adhesion to the gastrohepatic ligament. In this case these adhesions could easily be mistaken for the cystic duct and the common duct would in this case undoubtedly be divided. The cystic artery sometimes instead of running along the side of the cystic duct runs back of it. It also is shorter than the cystic duct and as Dr. Wm. Mayo has stated it bears the same relations to the cystic duct as a bow string to a bow. When this condition exists the clamp can easily fail to include the cystic artery with the cystic duct and after the cutting is done it will begin to bleed. In the hurried attempt to stop the bleeding the hepatic or common ducts can easily be injured.

Other variations have been found by Elliott, Eisendrath and others:

1. The right hepatic artery varies greatly in its relations to the main hepatic and cystic ducts.

2. The variations in the course of the gastroduodenal artery and one of its chief branches, the pancreaticoduodenal, must be borne in mind in operations on the common duct.

3. The cystic artery does not always arise from the right hepatic artery just after the latter crosses the right edge of the main hepatic duct.

4. There is a single cystic artery in only 88 per cent of individuals instead of in 100 per cent as is generally taught. Even when single, the cystic artery does not always arise from the right hepatic. An overlooked cystic artery arising from gastroduodenal may cause severe bleeding when accidentally divided.

5. In 12 per cent of individuals there are two cystic arteries, both of which do not always arise from the right hepatic. One may arise from the right hepatic and the other from the main hepatic or they may both arise from the left hepatic.

6. Anomalies in the hepatic and common ducts may be found as variations in the mode of union of the right and left hepatic ducts before the main hepatic duct is formed or as accessory hepatic ducts or finally as a double common duct. Or more specifically speaking (a) the cystic duct may pass over the main hepatic duct either anteriorly or posteriorly in a spiral manner before uniting with it. (b) The cystic duct may unite with the right hepatic duct before the latter unites with the left hepatic duct. In this case the common duct is formed by the right and left hepatic. (c) The cyst duct may unite with the left hepatic duct to form the common duct in which case the right hepatic duct empties into the cystic duct. (d) There may be an accessory hepatic duct emptying either into the cystic duct or into the usual hepatic duct or at the junction of the cystic and hepatic.

The obliteration of normal landmarks by inflammatory processes is an important cause of injuries to the bile passages. We know that gall-stones are the result of a disease and not strictly speaking a disease within themselves. An infection always precedes their formation. This is so true that we seldom speak of gall-stones but prefer to call it gall-bladder disease. This infection varies from a mild cholecystitis to a violent infection resulting in empyema of the gall-bladder and extending into the surrounding structures. After an acute condition like this subsides there is bound to be extensive adhesions and an obscuring of all the structures involved in an operation on the gall-bladder and bile ducts. In this condition the most careful dissection must be done and the greatest caution exercised to prevent damage to the bile passages.

The inadequate exposure of the field of operation is another factor of vital importance in this consideration. The technique as given by Masson I think is about as good as any that can be followed: "The abdominal incision extends from the midline at the top of the ensiform to a point about two inches external to the umbilicus. If it is necessary to remove the appendix the incision may be extended downward, especially if there is an excessive amount of subcutaneous tissue. When not contraindicated the usual exploration is made. The stomach, large bowel, omentum, and small intestine are separated from the field of operation by three or four abdominal

sponges, held in place by the left hand of an assistant. It is important when once the sponges are in place that the assistant should not move this hand during the operation. In almost all such cases this exposure is all that is needed, even when the right lobe of the liver cannot be rotated. In the exceptional case, however, additional exposure is obtained by inserting a pack (four inches by three feet) between the posterior superior surface of the right lobe of the liver and the diaphragm. In this manner the liver is made to descend slightly, the concave visceral surface is flattened somewhat, and the hilum of the liver is made more accessible. The insertion of this pack is an easy matter and if carefully placed it can in no way injure either the liver or the diaphragm. With an ordinary abdominal retractor the second assistant retracts the right costal margin upward and outward, while with a long shoe-horn retractor the first assistant gently retracts the liver in the opposite direction. The operator is now able to place the pack in position by using a pair of nine inch tissue forceps, carrying the gauze along the shoe horn retractor. I have used this procedure in numerous cholecystectomies, and am satisfied that it has frequently made very difficult cases absolutely safe. Injuries to the hepatic or common ducts, or hemorrhage, are always avoidable if the operator can see what he is doing and if he proceeds carefully."

The fifth factor in the etiology is the closed method of operation which consists of clamping and dividing the structures concerned after locating them through their peritoneal covering. The open method is advocated by some as a means of overcoming this obstacle. By this method the gastrohepatic ligament is made taut by pulling to the left the stomach and intestines and at the same time pulling to the right on the gall-bladder and liver. The right free border of the gastrohepatic ligament is then opened and the ducts and blood-vessels are exposed to view. The cystic duct is always separated from its bed before ligation. The insertion of cystic duct into the common duct and all other relations are noted. The variations from normal can be detected by this open method of operating. I realize there are some operators who take exception to this open method and there may be cases in which it may be unnecessary, but the point that I would like to emphasize is the importance of definitely locating each structure before a clamp is applied and any cutting done.

In the large majority of cases the accident is not discovered at the time of the operation, but only after the patient has developed a permanent



biliary fistula or jaundice and other symptoms of obstruction. In a small minority the obstruction is the result of cicatricial tissue from gall-stone ulceration. Such obstructions are more frequently due to stones impacted in the cystic duct at the junction of the common duct than to stones in the common duct itself. The free portion of the common duct has an extraordinary capacity for dilatation which is not true of the cystic duct. Ulceration does occur from stones within the common duct and leads to the formation of stricture, but usually such strictures have been found in that portion of the common duct which is fixed in the head of the pancreas.

Benign tumors of the stump of the cystic duct may occur after cholecystectomy and cause obstruction of the common duct. Dr. Wm. Mayo reported two cases of fibro-adenomata of the remaining portion of the cystic duct subsequent to cholecystectomy. The tumors were nearly the size of a hazelnut and encapsulated. They cause typical symptoms of common bile duct obstruction. The technical phase of this subject will not be discussed in this paper because the discussion of the reconstruction of injured biliary passages is a subject large enough for a paper within itself.

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### THE SHEPPARD-TOWNER BILL\*

KATE HARPEL, M.D., Boone

I was requested by your secretary to present the essentials of the Sheppard-Towner bill and any recent legislation affecting the health of women and children.

The bill known as the Sheppard-Towner bill was introduced in the senate by Senator Sheppard and into the house by Representative Towner. It is a bill for the public protection of maternity and infancy and provides a method of co-operation between the government of the United States and the several states. It is offi-

cially known as Senate Bill No. 3259. Union Calendar No. 416.

This bill was passed by the senate December 18, 1920. It was held up in the house committee so that it did not come to a vote and now it has been re-introduced in both senate and house by the same men who first introduced it. The original bill provided for a maximum appropriation of \$4,000,000 to carry out the provisions of the bill. This was reduced by a senate amendment to \$1,480,000 and it was reintroduced as amended. \$480,000 is to be divided equally among the states giving \$10,000 annually to each state, and the remaining \$1,000,000 to be given annually, is to be apportioned among the states in the proportion which their population bears to the total population of the United States. Provided that, no payment out of the \$1,000,000 to be pro-rated among the states, shall be made to any state until an equal sum has been appropriated by that state for that year. So much of the amount apportioned to any state as remains unexpended at the close of any year shall be held for that state until the close of the succeeding fiscal year. At the close of that time it shall be reapportioned among the states on the same basis as the original apportionment.

Sec. 3. The Children's Bureau of the Department of Labor shall be charged with the carrying out of the provisions of this Act, and the Chief of the Children's Bureau shall be the executive officer. The Chief is hereby authorized to form an advisory committee to consult and advise concerning any problems which may arise in connection with the carrying out of the provisions of this Act, such advisory committee to consist of the Secretary of Agriculture, the Surgeon-General of the U. S. Public Health Service, and the U. S. Commissioner of Education. The Children's Bureau shall have charge of all matters concerning the administration of this Act, and shall have power to co-operate with state agencies authorized to carry out its provisions. It shall be the duty of the Children's Bureau to make or cause to be made such studies, investigations and reports as will promote the efficient administration of this Act.

In order to secure the benefits of the appropriations authorized in this Act any state shall, through the legislative authority thereof, accept the provisions of this Act and designate or authorize the creation of a state agency with which the Children's Bureau shall have all necessary power to co-operate in the administration of this Act; provided, That in any state having a Child Welfare or a Child Hygiene Division of its state

\*Read before the Seventieth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 11, 12, 13, 1921.

agency of health the state agency of health shall administer the provisions of this Act through such divisions. A state advisory committee may be selected at least half of which shall be women, such committee to serve without compensation. If in any state the legislature does not meet in 1921, the governor of such state shall under the provisions of this law, accept the provisions of this Act and create or designate a state agency to co-operate with the Children's Bureau. The Children's Bureau shall recognize such state agency until the state legislature meets and has been in session sixty days.

Not to exceed 5 per cent of the amount authorized for any year may be used by the Children's Bureau for administration purposes. The Children's Bureau is authorized to employ office force from the eligible list of the civil service commission and to purchase supplies, office fixtures and apparatus and incur traveling expense as it deems necessary for the carrying out of this Act.

Any state desiring to avail itself of the benefits of this Act shall through its agency for carrying out the Act submit to the Children's Bureau for its approval detailed plans for carrying out the provisions of this Act, and these plans are to be approved by the Children's Bureau, and notice of approval sent by the Chief.

In order to provide popular non-technical instruction on the subject of hygiene of infancy, hygiene of maternity and related subjects, the state agency is authorized to arrange with any educational institution for extension courses by qualified lecturers, provided not more than 25 per cent of the sums granted by the U. S. to a state can be used for this purpose.

The facilities provided by any state agency co-operating under the provisions of this Act shall be available to all the residents of the state.

The Children's Bureau may withhold the allotment of moneys to any state whenever it shall be determined that such moneys are not being expended for the purpose and under the conditions of this Act. The state may appeal to the Secretary of Labor. His decision shall be final.

No portion of moneys apportioned under this Act for the benefit of states, shall be applied directly or indirectly for the purchase, equipment or rental of buildings.

It was shown in the hearings of this bill that in a single year 23,000 mothers died in childbirth, and nearly 250,000 infants died under one year of age, and that most of these deaths are preventable. Maternal mortality and infant mortality from maternal causes are not decreasing in the

U. S. During the past twenty years the typhoid rate has been reduced more than 50 per cent, the tuberculosis rate has been remarkably reduced, the diphtheria rate has been reduced more than one-half, but there has been no decrease in maternal deaths, principally because mothers do not have the necessary care, advice, and assistance they need. Other countries show lower death rates from these causes than our own. It is stated that it is safer to be a mother in seventeen important foreign countries than in the United States, and that babies have a better chance in ten foreign countries than in our own. Probably the most discouraging feature of the situation lies in the fact that no progress is being made. In this enlightened age and in this prosperous country more women between the ages of fifteen and forty-five lose their lives from conditions connected with childbirth than from any other cause except tuberculosis.

The actuary of one of the largest insurance companies from his investigations reports that deaths from maternal causes actually increased in the United States in the year 1920 over the year 1919 15 per cent. It is practically certain that 25,000 mothers will lose their lives from causes arising out of motherhood this year although we know that at least half of these could be saved by advice, care, and timely help. In a tenement portion of New York City where work has been carried on by a nurses' association supported by private contributions 4,683 cases were cared for. Not one mother died, and only one infant for each 102 born. The city death rate for all, per 1,000 cases of all infants under one month was 37. It will thus be seen that the work done by these nurses reduced the death rate of these infants from 37 to 10 per 1,000. Miss Baker, director of child hygiene, New York, says, they have proved over and over again that with instruction and help the death rate of women who die of maternal causes can be reduced one-half to two-thirds. An insurance statistician reports that when attention and care in prenatal and maternity cases are given under skilled direction only two women instead of five per 1,000 die. Only ten infants instead of forty die under one month of age per 1,000. It seems to be proven beyond a doubt that we can, merely by enlarging the activities of the state, bring to bear upon these terrible conditions such service as will annually save the lives of thousands of mothers and tens of thousands of children.

I know of no recent national legislation dealing with the health of women or children.

Under Iowa legislation, you probably all know



that the last session of our state legislature passed a vital statistics bill which admits us to the national registration area. This system of birth registration will furnish knowledge upon which much health work can be based and in many ways will be of value to the children.

The last legislature also passed a bill requiring universal compulsory treatment of the eyes of the new-born, to prevent infection unless the parents were religiously opposed. This last was a concession to the Christian Scientists.

They amended our cigarette law in the interests of enforcement. The original law made the keeping of cigarettes for sale to any one illegal. Many people felt this to be an infringement of personal liberty. After July 4 they can be kept for sale by those having a license to sell, and be sold to persons over twenty-one years of age. If the sale to minors can be stopped it will mean much to the health of the children.

The age of consent for girls was raised from fifteen to sixteen, and to seventeen if the man in the case was over twenty-five years of age.

Under recent legislation affecting health I feel that I should mention our venereal law, passed two years ago, for the enforcement of which our last legislature appropriated \$25,000 annually. The Perkins law is not so recent, having been in operation for six years. It is however doing great good among the children of the state.

The appropriations made by the last legislature for tuberculosis work are worthy of mention. Appropriations were made for additional buildings at Oakdale, including one for children. Also for a hospital for the tubercular at Clarinda and one at Independence. They also increased the maintenance fund for Oakdale from \$50 to \$65 per month. They increased the fund for bovine tuberculosis from \$100,000 to \$250,000 per annum, and the Federal government will spend practically the same amount in Iowa.

More authority was also given cities to regulate their milk supply.

#### KENTUCKY PHYSICIANS OPPOSE SHORTER MEDICAL COURSE

Delegates of the Kentucky State Medical Society, in joint session with the health and sanitary committees of the House and Senate, on January 21, 1922, opposed a legislative measure designed to relieve a shortage of physicians in rural districts by reducing the standard of medical training. The meeting was called at the request of the governor for the purpose of drafting a bill which would encourage the training of more physicians so as to aid the rural districts of the state.—Medical Record.

#### PHYSICIANS WHO LOCATED IN IOWA IN THE PERIOD BETWEEN 1850 AND 1860

D. S. FAIRCHILD, M.D., F.A.C.S., Clinton

DR. CHARLES CHUNN WARDEN

Dr. Charles Chunn Warden was born November 20, 1816, Maysville, Mason county, Kentucky. Died February 14, 1902, Ottumwa, Wapello county, Iowa.

Oldest child in the family of Richard Henry Warden and Elizabeth Charity Chunn, who were natives of Virginia.

About 1834 the family followed the beaten track into Ohio. On the death of his father, Charles, whose education had been obtained in the common schools of Kentucky and Ohio, supplemented by attendance at an academy in



DR. CHARLES CHUNN WARDEN

Greensburg, Indiana, engaged in the drug trade in the last mentioned place. He soon commenced the study of medicine with Dr. Fogg as his instructor. He continued his studies for two years and then entered the Ohio Medical College at Cincinnati after which he entered a partnership with Dr. Fogg, which was terminated by the death of his partner six months later.

In the spring of 1843 his broken health induced him to take a trip West and he arrived in Wapello county on July 3, 1843.

When it became known that he was a physician, he was called on to prescribe and his increasing practice induced him to become a per-

manent resident and was the first physician to locate in Wapello county.

Dr. Warden followed the active practice of medicine for thirteen years and after that time engaged in the drygoods business. Much of his time was devoted to educational interests and for twelve years he was president of the board of education in the public schools of Ottumwa, and for four years was a member of the board of trustees of the agricultural college at Ames, two years of that time acting as chairman.

Doctor Warden belonged to the type of pioneer which has built the State of Iowa—bringing to the frontier the integrity and sagacity which bind together the best in the struggling settlements and cementing the foundations of our commonwealth, and his philosophic acceptance of the unrecorded hardships of sickness and debt and exposure was an inspiration to his neighbors. The mute reminders of his early struggles, his shabby saddle bags, his rusty surgical instruments, his mortar and pestle, his matriculation cards to the Ohio Medical College are still treasured by the surviving members of his family who reside in Ottumwa. His name is to be found on the rolls of the Iowa State Medical Society, 1858, and the Wapello County Society of which last he served his term as president.

To him and others who have seen the wilderness fade away and cities spring up, the present generation owes a great debt.

It was the Editor's privilege to be connected with the State College at Ames when Dr. Warden was a member of the board of trustees and has a clear recollection of the usefulness of his services to the institution, particularly in relation to the health and welfare of the students. At that time public health matters, received but little consideration. There was no state board of health then, and no precautions were taken to prevent the spread of infectious diseases. All the students at the state college were lodged in one great building, and as college physician, we had great difficulty in controlling the spread of infectious diseases, as measles, scarlet fever, and diphtheria. Through the influence of Dr. Warden the college physician was made health officer and endowed with all the authority the law would permit; which was little enough you may be sure. This action of Dr. Warden was confirmed by Dr. W. S. Robertson, when the state board of health was formed, who was the first president of the board, and made the college physician health officer of the college under state authority.

We are indebted to the courtesy of Mrs. D. C.

Brockman of Ottumwa for most of the data relating to her father Dr. C. C. Warden.

#### DR. JEFFERSON WILLIAMSON

Dr. Jefferson Williamson was born in Adams county, Ohio, March 31, 1827. Graduated in medicine in 1852 from the medical department Western Reserve University. Came to Ottumwa and entered upon the practice of medicine in November, 1852, where he practiced continuously fifty-one years. He died in Ottumwa January 12, 1904 at the age of nearly seventy-seven years.

Dr. Williamson was a polished gentleman holding to high civic and professional standards. Progressive in his views of medicine, he became recognized as an ideal family physician. Although he made no special claims as a surgeon he had the courage in 1881 to perform an operation for a large ovarian tumor with a successful result; at a time when the operation was looked upon as a doubtful undertaking.

Dr. Williamson was a constant attendant of the meetings of the State Medical Society and was an inspiration to the younger members. He was active in the business of the society and his usefulness caused his name to appear at one time or another on the most important committees throughout his long membership of forty-five years. In 1872 he was elected president of the Society.

The profession of Ottumwa has been particularly distinguished for its loyalty to high ideals to which the influence of Dr. Williamson was an important factor.

#### DR. SENECA BROWN THRALL

Dr. Seneca Brown Thrall was born in Utica, Licking county, Ohio, August 9, 1832. His father, Dr. H. L. Thrall was for many years a professor in Kenyon College, and in Starling Medical College, Columbus, Ohio. Dr. Seneca B. Thrall graduated A.B. at Kenyon College, received his A.M. degree in 1855, and graduated in medicine from the University of New York, 1853. As was the custom at that time, he read medicine in his preceptor's office (his father).

Dr. Thrall received a liberal education both in arts and medicine, as it was thought in those days, and was well fitted for a career of usefulness. His energy and active habits of life brought unusual success. He commenced practice with his father and after two years, with his father and one additional year of practice at Belle Center, Logan county, Ohio, he located in Ottumwa in May, 1856.

In 1859, Dr. Thrall became a member of the



Iowa State Medical Society and in 1869 was president. In 1873, he was elected secretary of the Society in which office he served until 1877 in a most efficient manner. For nearly thirty years, Dr. Thrall was one of the most active members, watchful and uncompromising in his opposition to medical politics which had for its purpose the advancement of selfish ambition. For many years two medical schools factions struggled for supremacy in the councils of the society, leading to much ill-feeling, but Drs. Thrall, Williamson, Watson and others were always on guard. The year Dr. Thrall came to Ottumwa he married Miss Mary Brooks and together they builded a home where he died January 20, 1888, fifty-six years of age.

In 1862, Dr. Thrall was appointed a surgeon to the Keokuk Military Hospital, and was soon commissioned surgeon to the Thirteenth Iowa Infantry and continued in the service until May, 1864.

#### DR. JOSEPH CRAWFORD HINSEY

Dr. J. C. Hinsey was born in Butter county, Ohio, June 9, 1829 and died in Ottumwa, April 10, 1892. Graduated from Rush Medical College in 1851 and from the University of Pennsylvania in 1854. Located in Ottumwa in 1856.

In 1862 Governor Kirkwood appointed him surgeon to the enrollment board for the fourth congressional district and he served during the war.

Dr. Hinsey became a member of the State Medical Society in 1859 and was president in 1887. Dr. Hinsey was one of the few surgeons in Iowa to perform an ovariectomy in pre-antiseptic and pre-aseptic days. The writer recalls the interest manifested in the days before 1880 at the presentation of these wonderful operations.

#### RADIOTHERAPY IN CERTAIN FORMS OF UTERINE FIBROMA

La Presse Medical abstracts from the proceedings of the Surgical Society of Lyons observations made by M. Condamin on the use of radium in the treatment of uterine fibroids to the effect that it has less influence than on cancer of the uterus.

In fibromas it arrests the hemorrhage and often has an appreciable effect in reducing the volume of the tumor. The use of radium is advised in cases in which the patient is greatly exhausted from hemorrhage, until the condition is improved to permit of a safe operation.

The technic employed by M. Condamin consists in a full dilatation of the cervix to admit a metallic stem protected by caoutchouc and introducing two tubes of 50 to 60 milligrams which are left in place 36 to 48

hours. It is probable that the arrest of hemorrhage is due to the hardening of the mucus membrane.

#### INTERNATIONAL SOCIETY OF MEDICINE

It is announced that an international society has been established in Paris for the study of the history of medicine. The officers are Dr. Tricot Royer of Anvers, president; Professors Giordano of Venice, Singer of Oxford and Jeanselme and Menetrier of Paris, vice-presidents, and Professor Laignel-Lavastine of Paris, secretary-general. A convention will be held at London in July, 1922, when these subjects will be taken up: The Principle Localities of Epidemic and Endemic Diseases in the Middle Ages, in the Occident and the Orient, and the History of Anatomy. Professor Singer will act as chairman.—New York Medical Journal.

#### RENAL TUBERCULOSIS

Dr. John R. Caulk of St. Louis in a paper before the St. Louis Medical Society and published in the Journal of Urology draws our attention to some important and interesting facts in relation to Renal Tuberculosis. It is stated that 30 per cent of all surgical diseases of the kidney are tuberculous. An important observation is made that "there has never been in the history of medical literature a single authentic case of spontaneous healing of a tuberculous kidney. The ultimate outcome is always one of complete destruction to the kidney and usually severe mutilation to the rest of the urinary tract. So we are faced with the inevitable, and I warn against any hope for medical cure of renal tuberculosis and urge early nephrectomy, in order that the deleterious effects, which it is bound to produce and which I will describe later, may be prevented."

Considering chronic or surgical tuberculosis the author states: "This disease is usually a unilateral affair, primary in the kidney, as far as the urinary tract is concerned, but usually secondary to some other focus in the body such as the lung, bone, gland, bowel or genital tract. Kuster states that 10 per cent of patients dying of tuberculosis, have kidney involvement. In 85,000 operations at the Mayo Clinic 0.6 per cent were for renal tuberculosis. Kapsamer in 20,000 autopsies, found 191 cases of renal tuberculosis or little less than 1 per cent; of these 191 cases, 67 were unilateral and 124 bilateral. Of the bilateral cases, his findings indicated that a great majority showed old processes in one kidney and early in the other, illustrating that there had been unilateral involvement, but time had allowed the other kidney to become infected. Halle and Motz in 111 cases found 89 unilateral."

Referring to complications; "The presence of a true stone, not a lime salt infiltration, in a tuberculous kidney is extraordinarily rare, and its removal, so far as can be determined, has been reported but once by Fowler of Washington."

# The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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## ST. LOUIS MEETING OF THE AMERICAN MEDICAL ASSOCIATION

The session of the National Association at St. Louis may be said to have been as successful as any of the preceding sessions. The Association has become so large that it is quite impossible for one person to measure more than a part of it; only the part he is personally interested in, or if his interests are general, by a study of the program that he may select from the sections such men and papers he would like to see or listen to. The finding of auditorium rooms to care for some fifteen sections in close proximity is a difficult matter in most cities. This will be obviated in San Francisco as the municipal building will accommodate all the sections under one roof. Only the general meeting will probably seek a larger auditorium. At this gathering only the young and vigorous will find it interesting. The registration for the first three days was 4,853 of which Iowa contributed 149 and Kansas 205.

It is said, as a measure of reproach, that doctors find it difficult to agree and that controversy is a natural condition of the medical mind. Being of an inquiring turn of mind and of some experience at medical conventions we occupied ourselves to some extent in listening to groups of men in the hotel lobbies and in conversations with men who seemed to be in a satisfied state of mind and with others who appeared to believe that something was wrong and that they were delegated to watch for evil designs and to remedy any

departure from the "American Idea," but we failed to discover anything we were not familiar with for the forty-eight years of our membership. Of course it has not always been the same danger but of the same general character.

The strange and mysterious systems of medicine have always endeavored to fill the mind of the people with the idea that their methods were certain and above controversy while "the old schools" were uncertain, selfish, crude and full of controversy, and point as evidence of their contention to the petty disputes that are said to grow out of selfishness and uncertainty. It is not strange that many laymen listen to these claims and wonder why a true scientific profession of medicine should present the anomaly of the foremost men in the profession, as it appears to them, fighting over non-essentials. It must seem strange to a layman that the trusted delegates of fifteen scientific sections should not represent their respective sections by seats in the House of Delegates and vote. It must seem more strange that men who have grown up from small beginnings to positions of leaders, should be so distrusted that they should be turned back into obscurity. The layman would naturally ask if there was any constitutional provision which prevented new leaders by diligence and ability to work their way to the front. But it is a natural instinct of mankind from savage races to "autocratic Europe," to the glorious Republic of America, to strive for leadership by one method or another. As society becomes more complex the difficulty of reaching leadership increases. The desire for leadership is commendable and should be encouraged, not altogether for the individuals' personal advantage but in a measure at least for the good of the ruled. It must be said of the American Medical Association that it has done remarkably well in advancing the cause of scientific medicine.

The election of Dr. Wilbur as president-elect is a recognition of high merit. Dr. Wilbur was born in Boonsboro, Iowa, in 1875 and has grown from a medical student to be president of Leland Stanford University, passing through many grades of service to the high position he now holds. We of the Mississippi Valley had our eye set on Dr. Jabez N. Jackson of Kansas City who had risen to a high position in his profession and who will not be forgotten at some future election.

## INTRACARDIAC INJECTION OF ADRENALIN IN HEART ARREST

An editorial appears in *La Presse Medicale* for October 22, 1921, on the use of adrenaline ad-



ministered by intracardiac injection in sudden arrest of the heart in shock or chloroform anesthesia. A few years ago, several papers appeared in *Revue de Chirurgie* by Lenorment advocating exposure and manipulating the heart in cases of apparent death from anesthesia, chiefly chloroform anesthesia. Some twenty-four cases were given with a considerable proportion of recoveries, most of the cases were from French sources. There were a few American cases among them, one by W. W. Keen and one by Dr. W. S. Conkling of Des Moines. As this method involved in some cases the opening the abdomen or thorax, it never became popular. Now we have a more simple method of stimulating the heart as pointed out in this editorial review. It is stated that J. Winter in 1905 communicated to the Medical Society of Vienne the results of experimental researches with adrenaline on animals in which the circulation and respiration were suspended by the inhalation of chloroform, that the injection of adrenaline into the left ventricle of the heart restored its action when all other methods failed. Winter contended that in conjunction with artificial respiration the injection of adrenaline into the left ventricle through the thoracic walls would be equally successful. Five years later, Latzke reported to the same society three cases in which this treatment was employed. But only under the influence of the war was this treatment added to the classical means of the "reanimation" of the heart. Within the past year E. Vogt, private docent of the Faculty of Medicine of Tübingen collected fifteen cases giving durable results, four cases by Volkman, three cases by Von den Velden, two cases by de Walker and six cases by Ruediger, Zants, Heydloff, Foster and A. Mayer to which may be added one case by H. Guthmann of Erlangen. The writer states that there were failures which were not reported. There were many cases in which the condition was such that no permanent improvement was possible, and it would appear that the intracardiac injection hastened the arrest of the heart in hopeless cases. The most favorable results were in sudden profound shock and in chloroform narcosis.

The writer, L. Chemisse, discusses the views of the German contributors as to the merits of intrapericardiac, intramyocardiac and intracardiac, the latter being the most efficient. The technic is very simple. After disinfecting the skin with iodine introduced a fine needle (2m.m.) 10 c.m. in length in the fourth left intercostal space, one or two fingers breadth from the left sternal border slightly inclining the needle toward the Me-

dian line. At a depth of from  $3\frac{1}{2}$  to  $4\frac{1}{2}$  c.m. resistance ceases and by withdrawing the piston blood follows, one knows he is in the ventricle. Inject 1 c.m.—1 to 1000 solution adrenalin.

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Colorado medicine informs us that a referendum vote is to be taken in Colorado in November next entitled; "An Act to Prohibit Injurious, Dangerous or Painful Experimental Operations or Administrations Upon Human Beings or Dumb Animals Except to Relieve or Cure Them; Making Exceptions of Persons Consenting to Such Experiments and Providing Penalties for Violations of the Act."

This propaganda is of course under the auspices of the Colorado Anti-Vivisection Society in the interests of Drugless Healers, including Christian Scientists, Chiropractors, Osteopaths, and the like and for the purpose of arresting scientific medicine.

The arguments and statements take us back to the dark ages and are unworthy of any civilized or enlightened people. A few of the statements will show the low intellectual condition reached by certain people in this nation of boasted intelligence. An article by Eugene Christian, president of the National Association of Drugless Practitioners, is entitled: "Shall We Let the Doctors Enslave Us?" The article is a vilification of the "Drug Doctors." The other pamphlets of the New York Society are equally amazing, for many of them have no reference to vivisection. Herewith a few of the titles: "Complete Failure of Medicine in the World War," "Dangers in the Use of Vaccines and Serums," "The Folly and Failure of Serums and Vaccines," "The Utter Failure of the Old School Serum-Vaccine Method Versus the Glorious Record of Drugless Doctors in the Influenza Epidemic," "What Would Have Happened Without Osteopathy?," "What Would Have Happened Without Chiropractic?"

Abolition of Vivisection issues a pamphlet entitled "Black Art Vivisection," and this pamphlet treats of the following topics: "Japanese Vivisects Four Hundred Charity Patients in New York," "Kill Girl at Free Clinic," "Poor Children Blindness by Vivisector," "Human Beings Must be Vivisected," etc.

A referendum vote was taken in California on the same matter about two years ago and was defeated by a large vote. We trust that the same fate will follow the election in Colorado.

## IOWA STATE UNIVERSITY NEWS NOTES

Don M. Griswold, M.D., Iowa City

Through the kindness of certain organizations, and the efforts, especially, of Mrs. Stephen Wilder of Cedar Rapids, a subscription of \$1000, has been raised to be used for the purchasing of play ground equipment to be employed for the crippled children at the Perkins Hospital especially during the coming summer months. A great amount of play ground equipment has been purchased and there is more to arrive. Seesaw, merry-go-rounds, etc., will constitute some of this equipment. Two or three tent covers have been purchased to protect and shield the children from the hot rays of the sun. A local contractor of Iowa City has donated a large sand table and more such features are expected to be added from time to time. It is hoped that the great amount of time that must necessarily be spent by the children in the hospital, will be spent in the open air and sunshine, and thereby aid the scientific treatment that they receive. Needless to say there is great appreciation of Mrs. Wilder's efforts and that of her friends and it is hoped that this useful work will be kept up by those of public interest.

Dr. McDonald, director of student health at the State University of Iowa, spent the 14th and 15th of May in visiting and observing the conditions at the student health department at Ann Arbor, Michigan.

Dr. M. O'Harrow of the student health department, State University of Iowa, attended the meeting of the Iowa State Society of Medical Women of Des Moines, May 9th, and presented a paper on "Health Examination of School Children."

The offices of the student health department of the State University of Iowa, have been enlarged, renovated, newly painted, and new equipment put in, to accommodate the large number of students expected the coming year.

Internships for graduating medical students of the University have been awarded. In Dean Lee Wallace Dean's department, men who have already served a year's internship were appointed as is customary.

The awards follow. The department of internal medicine here, under Dr. C. P. Howard: Glenn W. Adams of Iowa City, John C. Shrader of Iowa City, Ernest F. Wahl of Wellman, and Daniel V. Conwell of Iowa City. Department of surgery, here: John J. Collins of Williamsburg, Lawrence A. Block of Davenport, Paul N. Mutschmann of Bellevue, and Harold G. King of Boise, Idaho. Mary A. Rose of Rockwell City enters the department as an anesthetist.

Department of pediatrics here: Morgan J. Foster of Wellman, Arnold Smythe of Scranton, and Oral L. Thorburn of Webster. Department of ortho-

pedics: George L. Dixon of Burlington and Fred W. Hark of Dysart. Department of gynecology and obstetrics: Frank G. Valiquette of Sioux City and Glenn N. Rotton of Essex.

To Jennie Edmundson Hospital of Council Bluffs: H. F. Johnson of Iowa City and Glenn R. Cutter of Cedar Rapids. To Methodist Hospital, Des Moines: Wendell B. Sperow of Carlisle, Thomas B. Murphy of Des Moines, Alfred R. Lekwa of Dows, and William B. Dixon of Mount Vernon. To Harper Hospital, Detroit: Alfred P. Synhorst of Pella, Martin H. Hoffman of Dubuque, and Lewis L. Leighton of Iowa City. To Receiving Hospital, Detroit: James H. Wise of Cherokee and Arthur L. Jones of Sioux City. To Lakeside Hospital, Cleveland: Simon A. Schluster of Fort Madison, Ivan F. Weidlein of Wellman, and Herbert Boysen of Sioux City.

To Children's Hospital, San Francisco: Ina Gourley of Ottumwa. To Methodist Hospital, Omaha: Chester J. Sturges of Buffalo, Minnesota. To North Side Hospital, Chicago: Edwin J. Smith of Iowa City. To Charity Hospital, Cleveland: Robert N. Larimer of Iowa City.

To Doctor Dean's department go Horace Hosford of Burlington, Dean Lierly of Marshalltown, and W. A. McNichols of Osceola, Benjamin Synhorst of Pella goes to the Mayo Clinic, Rochester, Minnesota.

Other students graduating in medicine who have not as yet decided where to take their internships are: Florence E. White of West Branch, Clarence P. Phillips of Mason City, and Henry B. Hibbe of Dubuque.

## PUBLIC HEALTH CONFERENCE

The State University of Iowa, College of Medicine,  
Extension Division, and State Board of Health  
Cooperating

Iowa City, July 18, 19, 20, 21, 1922

## PROGRAM

Tuesday, July 18

10:00 A. M. Address of Welcome, Walter A. Jessup, President, University of Iowa.

10:30 A. M. Response—Dr. D. C. Steelsmith, Director, County and City Health Department, Dubuque.

11:00 A. M. Diphtheria Prevention—Dr. Don M. Griswold, State Epidemiologist and Director of the State Board of Health Laboratories.

2:00 P. M. County Health Work—Dr. D. C. Steelsmith.

3:00 P. M. Responsibility of the Health Officer in Protecting the Public Water Supply—Jack J. Hinman, Jr., Chief of the Water Laboratory State Board of Health.

4:00 P. M. Inspection of Water Laboratory and Sanitary Exhibits.



Wednesday, July 19

9:00 A. M. The Student Health Service of the State University—Dr. C. R. Thomas, Assistant Director, University Health Service.

10:00 A. M. The Control of Communicable Diseases in Schools—Dr. Don M. Griswold.

11:00 A. M. Municipal Health Protection—Dr. E. Marsh Williams, City Health Officer, Oskaloosa.

2:00 P. M. The Health Center—Dr. Reul H. Sylvester, Director, Des Moines Health Center.

3:00 P. M. Mental Health—Dr. Lawson G. Lowery, Assistant Director, Psychopathic Hospital.

4:00 P. M. Inspection of Children's and Psychopathic Hospitals.

Thursday, July 20

9:00 A. M. The State Board of Health and the Local Health Officer—Dr. Rodney P. Fagan, Secretary, State Board of Health.

10:00 A. M. The State Venereal Disease Program—Dr. W. S. Conkling, Director, Bureau of Venereal Disease Control.

11:00 A. M. Housing and Health—E. H. Sands, State Housing Commissioner.

2:00 P. M. What the Health Officer Should Know About a Sewage Disposal Plant—Hans Z. Pedersen, Sanitary Engineer, State Board of Health.

3:00 P. M. The Diagnostic Work of the State Board of Health Laboratory—R. L. Laybourn, Assistant Director, State Board of Health Laboratory.

3:00 P. M. Inspection of Diagnostic Laboratories and Health Exhibits.

Friday, July 21

9:00 A. M. Public Health Education and the Sheppard-Towner Act—O. E. Klingaman, Director, Extension Division and Division of Maternity and Infant Hygiene.

10:00 A. M. Milk Supplies and Their Relation to Public Health—Earle L. Waterman, Associate Professor of Public Health, Extension Division.

11:00 A. M. Public Health Nursing—Miss Helena Stewart, Director, School of Public Health Nursing.

2:00 P. M. Tuberculosis as a Public Health Problem—Dr. H. V. Scarborough, Superintendent Oakdale Sanitarium.

3:00 P. M. Inspection of the State Tuberculosis Sanitarium at Oakdale.

#### NOTES

Room Reservations—Wire, write or telephone to Professor O. E. Klingaman, Director of the Extension Division for room reservations.

Registration—All registrations will be made on the second floor of the Medical Laboratory Building at the corner of Dubuque and Jefferson streets. There are no fees charged to residents of the state.

Place of Meeting—All meetings will be held in Room 201, Medical Laboratory Building.

Exhibits—An exhibit of laboratory apparatus, models, charts, and forms used in public health work; will be displayed in the hall on the second floor of the Medical Laboratory Building.

#### MALIGNANT GROWTHS DEVELOPING IN UNDESCENDED TESTICLES

Dr. John H. Cunningham of Boston, in a paper on the above named subject, published in *The Journal of Urology*, May, 1921; says in regard to malignant disease of the testicles that the prognosis as in all malignant testicular tumors is bad and the mortality high.

The majority of the patients in this recorded series were dead within one year following operation and Buckley states that only three of the fifty-nine patients which he recorded were alive after two years.

Hinnman has pointed out that metastasis from a malignant tumor of the testicle may always be expected to take place in the lumbar lymph nodes, particularly in the nodes in the region of the renal pedicle when the tumor is on the right side, and to the left of the aorta when the growth is located in the left testicle. Hinnman had advocated the removal of these nodes in connection with orchidectomy when these nodes are not clinically involved; basing this opinion upon the fact that but 15 to 20 per cent of patients with testicular new growth are cured by orchidectomy even before metastasis have taken place.

The principles underlying the use of electricity in medicine are but feebly understood by the majority of its followers. Manufacturers are anxious to produce apparatus to obtain results such as are expected and obtained by experts in this line—but here their mission stops, and it is from the writers of books and articles on the subject that the physicians must get further and essential information.

It is the earnest desire of every physician using apparatus to produce not only the best possible results for his patients, but to take care of his own financial returns, as well. A heart-to-heart talk, not only explaining the reasons why certain electrical modalities are used, but the technical application, is an occasion that should be appreciated by those who desire to become more familiar with their special apparatus, and better acquainted with the methods applicable to a greater variety of diseases.

Such diseases and conditions as arise from what are commonly known as constipation, intestinal indigestion and auto-intoxication—but recognized in the newer term of intestinal stasis—will be considered at length in Doctor Morse's clinics and illustrations.

High blood-pressure, and the relief of its many accompanying symptoms, will be especially considered. The use of the constant current in gynecology has much more importance than is usually attributed to it because of the lack of familiarity with the subject. The opportunity of questioning the lecturer may be the means of helping some physician on a puzzling case.

We are preparing for your attendance at these clinics, as fully outlined on the program herewith.

H. G. Fischer & Co., Inc.

**Minutes of the Iowa State Medical Society  
Seventy-first Annual Session, Des  
Moines, May 10, 11, 12, 1922**

**Wednesday, May 10, Morning**

The Seventy-first Annual Session of the Iowa State Medical Society was held in Fort Des Moines Hotel, Des Moines, May 10, 11 and 12, 1922.

The Society was called to order at 8:45 o'clock by the President, Dr. Alanson M. Pond, Dubuque. Following invocation by Rev. Father V. Stoll, Des Moines, Dr. Alva P. Stoner, Des Moines, President of the Polk County Medical Society, on behalf of the local profession extended to the visiting members an address of welcome, response being made by Dr. Wm. L. Allen, Davenport.

Dr. Harold L. Brereton, Emmetsburg, read a paper on "Pyloric Stenosis of Infancy." Discussed by Drs. M. L. Turner, Des Moines; L. E. Kelley, Des Moines; E. B. Wilcox, Oskaloosa; E. E. Morton, Des Moines; A. H. Byfield, Iowa City, and by Dr. Brereton in closing.

The President stated that the Iowa State Pharmaceutical Association had requested that the Iowa State Medical Society appoint a committee to cooperate with a committee of that Association in matters of mutual interest.

It was moved that the chair appoint a committee of three to confer with the Iowa State Pharmaceutical Association in matters of mutual interest. The motion was duly seconded, and carried.

The President appointed as such committee Drs. R. L. Parker, Des Moines; P. E. Somers, Grinnell, and Leonard Fraser, Bradford.

Dr. Frederick G. Murray, Cedar Rapids, read a paper on "Market Milk from a Medical Standpoint." Discussed by Drs. Daniel C. Steelsmith, Dubuque; D. N. Loose, Maquoketa; Fred Moore, Des Moines; Edward P. Davis, Philadelphia; Granville N. Ryan, Des Moines, and A. H. Byfield, Iowa City; Dr. Murray closing the discussion.

On behalf of the Society, Dr. D. C. Brockman, Ottumwa, presented to President Pond the emblem of his authority in the form of a beautiful gavel, stating that by its use during the meeting he might exercise his prerogative of being the only and official knocker. In a brief address the President expressed his thanks to the Society for the memento.

Dr. Paul A. White, Davenport, read a paper on "Surgery of the Thyroid Gland." Discussed by Drs. George Kessel, Cresco; John F. Herrick, Ottumwa, and by Dr. White in closing.

Address on "Medical Ideals" was given by Dr. Evan S. Evans, Grinnell, Chairman of the Section on Medicine.

Dr. Oliver J. Fay, Des Moines; read a paper on "Injuries to the Spine not Involving the Cord."

Dr. John W. Martin, Des Moines, read a paper on "Vertebral Fractures with Cord Involvement."

These two papers were jointly discussed by Drs. William Jepson, Sioux City; H. C. Eschbach, Albia,

and Tom B. Throckmorton, Des Moines, Dr. Fay closing the discussion.

**Wednesday, May 10, Afternoon**

The meeting was called to order at 1:30 o'clock by the President.

Dr. Bert L. Eiker, Leon, gave the "Oration in Medicine."

Dr. Walter L. Bierring, Des Moines, read a paper on "Subacute Bacterial Endocarditis." Discussed by Drs. Campbell P. Howard, Iowa City; C. F. Wahrer, Fort Madison; E. T. Edgerly, Ottumwa; Frank M. Fuller, Keokuk; Julius S. Weingart, Des Moines; A. D. Woods, State Center; Daniel J. Glomset, Des Moines, and by Dr. Bierring, in closing.

Dr. Henry A. Christian, Professor of Medicine, Harvard University, Boston, gave the Address on Medicine, his subject being: "Digitalis Results in Certain Types of Cardiac Disease" (with lantern demonstration).

Dr. Clyde A. Boice, Washington, read a paper on "Muscle Rigidity: Its Diagnostic Value." Discussed by Dr. Peter A. Bendixen, Davenport, and Dr. Boice in closing.

President Pond retired to attend the meeting of the House of Delegates, Vice-president, S. A. Spilman, presiding during the remainder of the session.

Dr. Jasper L. Augustine, Ladora, read a paper on "Fracture of the Patella." Discussed by Drs. Whitfield W. Hansell, Grinnell; A. P. Donahue and Peter A. Bendixen, Davenport, and William Jepson, Sioux City.

**Wednesday, May 10, Evening**

Following the annual banquet of the Society and its guests, an address on "Personality" was given by Rev. W. C. Bitting, St. Louis. In the course of his talk Dr. Bitting paid a tribute to the professional spirit and guiding genius of the honored and beloved member of the profession of Iowa, Dr. James Taggart Priestley, concurrence in which was immediately manifested by an ovation spontaneously and unanimously extended to Dr. Priestley.

**Thursday, May 11, Morning**

The meeting was called to order at 9 o'clock by President Pond.

Paper on "A Survey of Two Hundred Cases of Pulmonary Tuberculosis," by Dr. John W. Shuman, Sioux City, in the absence of the author was read by Dr. Roy Woodward, Mason City. Discussed by Drs. Herbert V. Scarborough, Oakdale, and J. W. Kime, Fort Dodge, Dr. Woodward closing the discussion.

Dr. Lafe H. Fritz, Dubuque, read a paper on "Surgical Diagnosis of Gall-Bladder Disease." Discussed by Drs. S. A. Spilman, Ottumwa; E. C. Junger, Soldier; Murdoch Bannister, Ottumwa; Walter L. Bierring, Des Moines; C. F. Wahrer, Fort Madison; Donald Macrae, Council Bluffs, and H. J. Prentiss, Iowa City, Dr. Fritz closing the discussion.

Dr. Henry J. Prentiss, Iowa City, read a paper on "Some Variations in the Thoracic Content as Observed in the Anatomical Laboratories of the State



University." Discussed by Drs. Walter L. Bierring; William Jepson, and Henry J. Prentiss in closing.

Dr. Aram G. Hejinian, Anamosa, read a paper on "Spreading Peritonitis and its Treatment." Discussed by Drs. M. J. Kenefick, Algona, and Donald Macrae, Council Bluffs, Dr. Hejinian closing the discussion.

Dr. William Jepson, Sioux City, read a paper on "Tumors of the Breast." Discussed by Drs. Wm. L. Allen, Davenport; Edward P. Davis, Philadelphia; Paul A. White, Davenport, and Dr. Jepson, in closing.

At the suggestion of Dr. Jepson, a rising vote of thanks was extended to Dr. Davis for participating in the discussion.

Dr. Judd C. Shellito, Independence, read a paper on "Diagnostic Problems in the Right Upper Quadrant." Discussed by Drs. Donald Macrae and Tom B. Throckmorton, the essayist closing the discussion.

#### Thursday, May 11, Afternoon

The meeting was called to order at 1:30 o'clock by the President.

Dr. Pearl E. Somers, Grinnell, read a paper on "Chemistry and Medicine."

At the conclusion of his paper Dr. Somers moved that the House of Delegates be requested to take action leading to the appointment of a committee from this Society, whose duty it shall be to carry to the American Medical Association meeting at St. Louis the feeling of the Iowa State Medical Society that a Chemo-Medical Research Institute is vital to the growth of Medicine, and that we are keenly anxious that the American Medical Association take immediate action looking towards its realization.

The motion was seconded, and carried. The President announced that the matter would be referred to the House of Delegates.

Dr. Somers' paper was then discussed by Drs. Robert L. Parker, Des Moines, and Frank M. Fuller, Keokuk, the essayist closing the discussion.

Address on "The Control of the Circulation," was presented by Dr. George Kessel, Cresco, Chairman of the Section on Surgery.

The Address on Surgery—"Our Present Knowledge and Experience Concerning Caesarean Section" (with lantern demonstration)—was given by Dr. Edward P. Davis, Professor of Obstetrics, Jefferson Medical College, Philadelphia.

On motion of Dr. Paul E. Gardner, New Hampton, paper entitled, "Extraperitoneal Caesarean Section," by Dr. Nicholas Schilling, New Hampton, owing to the unavoidable absence of the author was read by title and passed with recommendation that it be published.

Dr. Lena A. Beach, Rockwell City, read a paper on "Multiple Sclerosis." Discussed by Drs. Clarence E. Van Epps, Iowa City, and Frank A. Ely, Des Moines, Dr. Beach closing the discussion.

Dr. John F. Herrick, Ottumwa, read a paper on "Spinal Puncture as an Aid to Diagnosis and Ther-

apeutics." Discussed by Dr. Joseph W. Rowntree, Waterloo, and Dr. Herrick in closing.

Dr. Howard L. Beye, Iowa City, read a paper on "Differential Diagnosis between Infection of Bone and Sarcoma of Bone" (lantern demonstration). Discussed by Drs. Donald Macrae, Jr., Council Bluffs, and Howard L. Beye.

#### Thursday, May 11, Evening

The meeting was called to order at 8:15 o'clock by Vice-President Spilman.

President Alanson M. Pond then read his Address, entitled—"Some Recent Medical Problems in Iowa."

Dr. James McDowell Patton, Omaha, guest of the Section on Ophthalmology, Otology and Rhinology, gave an address on "The Pros and Cons of Foreign Protein Injections in Affections of the Eye."

#### Friday, May 12, Morning

The meeting was called to order at 9 o'clock by Vice-President Spilman.

Dr. James G. Macrae, Creston, read a paper on "Plastic Medicine." Discussed by Drs. Paul A. White, Davenport, and J. W. Kime, Fort Dodge.

Dr. Cyril G. Field, Fort Dodge, read a paper on "Anterior Poliomyelitis: A Review of Thirty Sporadic Cases." Discussed by Dr. Frank A. Ely, Des Moines, and Dr. Field in closing.

Dr. Harry E. Pfeiffer, Cedar Rapids, read a paper on "The Postoperative Treatment of Peritonitis." Discussed by Dr. Ralph E. Keyser, Marshalltown, and Dr. Pfeiffer in closing.

The House of Delegates having adjourned, President Pond presided during the remainder of the meeting.

The Oration on Surgery was given by Dr. Charles E. Ruth, Des Moines.

Report of the transactions of the House of Delegates was then presented by the Secretary. Upon motion, unanimously carried, the report was accepted.

#### SUMMARY OF PROCEEDINGS OF THE HOUSE OF DELEGATES

"At the sessions of the House of Delegates which took place during the first two days of the meeting, the time was largely consumed in taking care of the routine work. The reports of the various officers and committees were received and placed on file.

On the second day the work of the Field Activities Committee was presented by its chairman, Dr. Frank E. Sampson of Creston. On account of the nature of the report of this committee, and in accordance with the By-Laws of the Society, the report was laid upon the table for one day.

At the session this morning the Nominating Committee presented its report, whereupon the following officers were elected for the ensuing year:

President-Elect, Oliver J. Fay, Des Moines.

First Vice-President, George Kessel, Cresco.

Second Vice-President, O. F. Parish, Grinnell.

Re-elected on the Board of Trustees: J. W. Cokenower, Des Moines.

Delegates to the A. M. A.: Donald Macrae, Jr., Council Bluffs; Wm. L. Allen, Davenport. (Holding over.) J. C. Rockafellow, Des Moines.

Alternate Delegates to the A. M. A.: D. N. Loose, Maquoketa; Bert L. Eiker, Leon. (Holding over.) M. N. Voldeng, Woodward.

The resolution, recommending the appropriation of a sum of money not to exceed \$7,500 for the work of the Field Activities Committee during the coming year, was unanimously passed.

For the place of meeting of the Seventy-second Annual Session of the Society, Ottumwa was chosen, the time selected being May 9, 10, 11, 1923.

The registration of the session shows the presence of 675 physicians, visiting ladies and guests."

Tom B. Throckmorton,  
Secretary.

President-Elect Charles J. Saunders, Fort Dodge, was then inducted into office as President of the Iowa State Medical Society.

With permission of the House, Dr. W. E. Sanders, Des Moines, introduced and moved the adoption of the following resolutions:

#### RESOLUTIONS

**Resolved,** That the Iowa State Medical Society hereby extends its greetings to the following members who by reason of disability or disease are prevented from attendance upon this meeting, and expresses the hope that they may be speedily restored to health and association among us:

Drs. A. G. Field, Des Moines; Edward Hornibrook, Cherokee; J. N. Warren, Sioux City; J. D. Brookings, Woodward; A. L. Brooks, Audubon; J. M. Brooks, Des Moines; G. N. Newsome, Indianola; H. B. Young, Burlington; George E. Crawford, Cedar Rapids.

**And Be It Further Resolved,** That a copy of these resolutions be sent by the Secretary of this Society to each of the above named members.

The motion was seconded, and unanimously carried.

Upon motion, the meeting adjourned.

Tom B. Throckmorton,  
Secretary.

### Transactions House of Delegates Iowa State Medical Society

Seventy-first Annual Session, Des Moines  
May 10, 11, 12, 1922

#### First Meeting, Wednesday, May 10

The House of Delegates met in the Oak Dining Room, Hotel Fort Des Moines, and was called to order by the President, Dr. A. M. Pond, at 3:30 p. m.

Roll call showed the presence of thirteen officers and thirty-eight delegates, a total of fifty-one. A

quorum being present, the House proceeded to the transaction of business.

The Secretary, Dr. Tom B. Throckmorton, presented his annual report, which upon motion was accepted and referred to the Finance Committee.

#### REPORT OF THE SECRETARY

##### To the Members of the House of Delegates of the Iowa State Medical Society:

The following report for the year 1921-22 is respectfully submitted:

The routine work in the Secretary's office has varied but little, if any, from that of former years. The whole hearted support of the officers, together with cooperation on the part of the vast majority of the Secretaries of the various Component County Medical Societies, has made the secretarial work pleasant, agreeable, and, I trust, of value to organized medicine as a whole.

#### Membership

The membership of the Society still continues to compare favorably with that of former years. In 1918, there was a total of 2185 members; in 1919, 2,205; in 1920, 2,340 members; and the past year 2,371 members. Every year brings a large quota of new members into the Society, but, unfortunately, a number of doctors, some who have been members for years, for some unknown cause, allow their membership to lapse, so that the total gain every year is not what, in reality, it should be. And while the membership for 1921 shows only a slight increase over that of the year 1920, still it is gratifying to know that organized medicine is on the increase, and that there is an honest desire on the part of the component county medical societies to receive every eligible and reputable medical man into fellowship with all the rights and privileges appertaining thereunto.

To date the 1922 paid membership numbers 2,174.

#### American Medical Association

It is likewise agreeable to note that our national body—The American Medical Association—has not been backward in the adoption of a policy similar to the one suggested by Ex-President Macrae in his address of last year.

Delightfully pleasing also is it to note the increased activities of our national society during the past year. If you will pardon what may seem to be a digression from the usual Secretarial Report, I would like to briefly touch upon one or two salient points that I believe are of paramount value to American medicine as a whole, and to Iowa medicine in particular.

The American Medical Association for some time has felt the need of closer relationship between the various state societies and itself. With the object in view of bringing this about, the board of trustees of the national association authorized the calling together of the secretaries of the various state organizations for a conference in Chicago last November. At this meeting, in an informal way, a



mutual exchange of ideas took place between those representing the welfare of our national association and those having to do with the secretarial work of state medical societies. So successful was the Conference, so enthusiastic its participants, that the Board of Trustees of the American Medical Association has assured the repetition of the Conference, possibly as a yearly affair. That the future of American medicine would be the better safeguarded by the continuation of such annual conferences, is, I am sure, quite obvious.

#### Field Activities

As a direct outgrowth of desire on the part of our national organization to be of more help to the various state societies, a field activities man, Dr. Olin West of Tennessee, has been, recently, appointed by the Board of Trustees of the American Medical Association to fill the newly created office.

Dr. West has already given assurance that he is more than anxious to be of any service in aiding and abetting a closer cooperation between organized medicine in Iowa and the home association in Chicago. This would seem to indicate the beginning of a new era in American medicine—a national field activity man, and, if our national association has seen fit to so place at our disposal the service of such a department, is it unreasonable or illogical to assume that Iowa medicine would be injured or harmed by having the services of some individual, or individuals, who will honestly endeavor to coordinate and bring into harmonious relationship, the medical activities of the various counties of the state? With every county properly organized and functioning in all its medical activities, a stronger, a better, a larger, state medical society is assured, and in just such proportion as the state medical societies are functioning and efficient, will our national association grow in strength and efficiency.

The willingness of the American Medical Association to extend to the Iowa State Medical Society the services of its various departments, seems to me to be a friendly challenge, and it is largely up to this body, the House of Delegates, here assembled, as to what will be accomplished, during the coming year, as to a better understanding, a more thorough coordination, and a more harmonious cooperation between the medical activities of the various Component County Medical Societies, the Iowa State Medical Society, and the American Medical Association.

Other matters in which the office of Secretary has been active, are reported to the House of Delegates from other sources.

#### FINANCIAL STATEMENT

May 1, 1921 to April 30, 1922

##### Receipts

Dues, 1920 .....	\$ 10.00
Dues, 1921 .....	1,355.00
Dues, 1922 .....	10,333.00
Advertising .....	7,441.78
Reprints .....	634.28

Subscriptions—non-members.....	86.85	
Sales .....	10.84	
Honorarium—A. M. A. Advertising Bureau .....	192.00	\$20,063.75

##### Disbursements

Commission and Discount to Advertising Bureau .....	\$ 893.40	
Dr. Thos. F. Duhigg, Treas.....	19,170.35	\$20,063.75

The following orders have been issued during the year:

No.	Amount
1127 Salary office assistant, April.....	\$ 100.00
1128 Iowa Press Clipping Bureau, April.....	5.00
1129 American Medical Association, 1921 Directory .....	12.00
1130 American Badge Co., Chicago badges 1921 Session .....	80.80
1131 Lewis Schooler, postage and expense medico-legal committee, 1920-21.....	10.00
1132 Dr. Wm. S. Windle, Oskaloosa, for local attorney fee, medico-legal.....	75.00
1133 Central Engraving Co., cuts, April and May issues.....	13.28
1134 Plumb Jewelry Co., engraving gavel....	6.00
1135 J. H. Welch Prtg. Co., April issue and reprints .....	966.30
1136 J. W. Cokenower, Chrm. Legislative Co., Dahlberg Dup. Co.....	79.68
1137 Dahlberg Duplicating Co., printing report Legislative Com. and mailing.....	32.03
1138 J. W. Cokenower, Chrm. Legislative Com. stenographic services and assistant at legislative session.....	113.85
1139 Thos. F. Duhigg, Treas., salary, postage and expense 1920-21.....	163.93
1140 Samuel Bailey, Councilor, expenses.....	8.06
1141 Paul E. Gardner, Chairman Council, expenses .....	7.00
1142 Dutcher & Davis, Attys, medico-legal January, February, March.....	483.18
1143 Tom B. Throckmorton, Sec'y, balance salary office assistant 1920-21.....	100.00
1144 Tom B. Throckmorton, Sec'y, second-class postage, city delivery, salary 2-15-21 to 5-15-21.....	133.00
1145 Tom B. Throckmorton, Sec'y, expenses 1921 Session including hotel for guests and registration.....	203.59
1146 Central Engraving Co., cuts for Jour....	10.75
1147 Ida J. Brinton, Transactions House of Delegates .....	25.00
1148 Dr. Tom B. Throckmorton, salary office assistant for May.....	120.00
1149 Mathias Metz Co., Dubuque, stationery for President Pond.....	19.25
1150 J. H. Welch Prtg. Co., May issue and reprints .....	615.75
1151 Iowa Press Clipping Bureau, May.....	5.00

No.	Amount	No.	Amount
1152	Central Engraving Co., cuts July issue 5.53	1183	Federal Prtg. Co., 1922 members receipts, stationery, envelopes for State Society and Journal..... 61.25
1153	Tom B. Throckmorton, Sec'y, salary office assistant, June..... 120.00	1184	American Medical Association, 1921 membership cards ..... 3.50
1154	D. S. Fairchild, Editor, salary, April to July, Sec'y's salary, postage..... 408.64	1185	C. L. Dahlberg Co., form letters..... 1.15
1155	J. H. Welch Prtg. Co., June Journals, May and June reprints..... 654.05	1186	McNamara Office Supply Co., supplies for Secretary's office..... 10.90
1156	Tom B. Throckmorton, Sec'y, salary office assistant, July..... 120.00	1187	C. V. Mosby Co., cuts for Journal use 2.59
1157	Central Engraving Co., cuts, August issue ..... 5.00	1188	Tom B. Throckmorton, Sec'y, salary office assistant, November..... 120.00
1158	Federal Printing Co., stationery for Editor ..... 21.61	1189	Tom B. Throckmorton, Sec'y, rent and phone Sept. to Dec., second-class postage, salary 8-15-21 to 11-15-21..... 246.29
1159	Iowa Press Clipping Bureau, June and July ..... 10.00	1190	J. H. Welch Prtg. Co., Oct. and Nov. Journals and reprints..... 1,259.10
1160	McNamara Office Supply Co., supplies for Secretary..... 3.75	1191	Dutcher & Hambrecht, attys., Iowa City, medico-legal July to October..... 1,081.47
1161	Bankers Prtg. Co., stationery, Sec'y..... 6.00	1192	Robert M. Haines, atty., Des Moines, local attorney, medico-legal..... 355.73
1162	C. L. Dahlberg Co., form letters, Secretary's office ..... 6.68	1193	H. F. Barthell, atty., Decorah, local attorney, medico-legal ..... 125.00
1163	Upham Bros., bonds for Secretary and Treasurer ..... 62.50	1194	C. E. Cooper, attorney, Onawa, local attorney, medico-legal ..... 132.70
1164	Miss Adelaide Folsom, reporting 1921 Session ..... 161.60	1195	Dunshee & Brody, attys., Des Moines, local attorney medico-legal..... 20.00
1165	J. H. Welch Prtg. Co., July and August Journals and reprints..... 1,648.47	1196	Iowa Press Clipping Bureau, October and November service..... 10.00
1166	Dunshee & Brody, Des Moines, attorney fees medico-legal..... 50.00	1197	Thos. F. Duhigg, deficit Arrangement Committee 1921 ..... 17.35
1167	Dutcher & Davis, attys, Iowa City, medico-legal April, May and June..... 533.87	1198	W. B. Small, Waterloo, expense attending November meeting Trustees 10.86
1168	Dr. Edwin Jackson, Denver, expense attending 1921 Session..... 71.28	1199	T. E. Powers, Clarinda, expense attending November meeting Trustees 15.60
1169	Dr. Tom B. Throckmorton, Sec'y, office assistant salary, August..... 120.00	1200	J. W. Cokenower, Chrm. Trustees, stationery stamps, expense of November meeting, Trustees ..... 14.40
1170	Dr. Tom B. Throckmorton, Sec'y, second-class postage, rent, phone, etc., for May, June, July and August, salary 5-15 to 8-15, 1921..... 246.73	1201	Tom B. Throckmorton, Sec'y., salary assistant for December..... 120.00
1171	T. E. Powers, Clarinda, expense attending August trustees' meeting..... 15.95	1202	D. S. Fairchild, Editor, salary, secretary and postage for October, November and December..... 410.80
1172	W. B. Small, Waterloo, expense attending August trustees' meeting..... 9.42	1203	Central Engraving Co., cuts for January issue ..... 10.17
1173	J. W. Cokenower, expense August meeting trustees ..... 7.90	1204	Iowa Press Clipping Bureau, December ..... 5.00
1174	Tom B. Throckmorton, Sec'y, salary office assistant, Sept..... 120.00	1205	Tom B. Throckmorton, Sec'y, salary assistant for January..... 120.00
1175	D. S. Fairchild, Editor, salary, Sec'y's, salary, postage July, August and Sept. 410.48	1206	Iowa Press Clipping Bureau, January and February ..... 10.00
1176	Iowa Loan & Trust Co., Des Moines, school bond purchase..... 1,909.16	1207	C. L. Dahlberg Co., Sec'y. form letters to County Secretaries..... 2.48
1177	Iowa Press Clipping Bureau, August and September ..... 10.00	1208	American Medical Association, 1922 membership and record cards..... 17.50
1178	J. H. Welch Prtg. Co., Sept. Journals and reprints ..... 640.30	1209	Federal Prtg. Co., Journal wrappers and stationery State Society..... 89.00
1179	Tom B. Throckmorton, salary office assistant, October ..... 120.00	1210	J. H. Welch Prtg. Co., December Jour. and reprints ..... 720.35
1180	Central Engraving Co., cuts for December issue ..... 15.56	1211	Dutcher & Hambrecht, attys, Iowa City, medico-legal Oct., Nov., Dec..... 1,085.25
1181	Donald Macrae, Jr., expense as Pres.... 50.00		
1182	Bankers Prtg. Co., order books, State Society ..... 11.65		



No.	Amount	1- 76 page Journal ....	652.85
1212 Kindig, McGill, Stewart & Hatfield, attorneys, Sioux City, medico-legal.....	50.00	1-100 page Journal ....	939.92
1213 Gerritt Klay, atty., Orange City, medico-legal .....	150.00	Total 872 pages.....	\$7,680.87
1214 Tom B. Throckmorton, Sec'y, rent, phone, second-class postage, salary 11-15-21 to 2-15-22.....	253.45	Journal wrappers .....	\$ 90.00
1215 T. E. Powers, Clarinda, expense attending February Trustees meeting.....	15.04	Engravings .....	63.87
1216 W. B. Small, Waterloo, expense attending February Trustees meeting.....	10.18	Commission and discount.....	907.78
1217 J. W. Cokenower, expense, February meeting Trustees and medico-legal.....	9.70	Reprints .....	503.05
1218 H. B. Jennings, Council Bluffs, expense attending February meeting Trustees and medico-legal Committee .....	10.90	Second-class postage and city delivery .....	162.76
1219 J. H. Welch Prtg. Co., January Jour.....	467.80	News service .....	60.00
1220 J. H. Welch Prtg. Co., Jan. reprints....	45.15	Postage .....	30.00
1221 Tom B. Throckmorton, Sec'y, salary office assistant, February.....	120.00	Editor's postage and office expense .....	24.92
1222 J. H. Welch Prtg. Co., February Jour. and reprints .....	534.55	Office supplies .....	40.25
1223 Tom B. Throckmorton, Sec'y, office assistant, March .....	120.00	Rent and telephone.....	115.02
1224 Central Engraving Co., cuts for April issue .....	9.40	Editor's secretary .....	60.00
1225 Dr. D. S. Fairchild, Editor, salary stenographer, postage, Jan., Feb., Mch. ....	412.05	Business office assistant's salary .....	697.00
1226 Bastian Bros., Rochester, N. Y., 1922 badges .....	70.16	Editor's salary .....	1,500.00
1227 J. H. Welch Prtg. Co., March Journal and reprints .....	550.50	Deficit .....	785.06
Tom B. Throckmorton, Secretary.			\$11,935.52
			\$11,150.46

Tom B. Throckmorton,  
Business Manager.

#### REPORT OF TREASURER

Dr. Thos. F. Duhigg, Treasurer, presented his annual report which, upon motion, was accepted and referred to the Finance Committee.

#### Balance Sheet

Balance on hand April 30, 1921	\$32,225.44
Received from Secretary.....	19,170.35
School Bonds (\$2000) purchased for .....	1,909.16
Interest on \$20,000 Liberty Bonds .....	850.00
Interest on school bond.....	50.00
Interest on deposits.....	219.23

Total receipts to Apr. 30, 1922	\$54,424.18
Expended as per orders herewith attached .....	\$19,871.81
Less check No. 654 (Welch Prtg. Co., not yet presented for payment) .....	550.50
Total expended.....	\$19,321.31

#### Assets

Liberty Bonds .....	\$10,000.00
Liberty Bonds \$10,000 purchased at .....	8,600.00
Trade acceptance paper (Morris bank) .....	2,002.96
School bond (\$2,000) purchased for .....	1,909.16
On time deposit People's Savings Bank .....	10,734.70
On deposit subject to check.....	1,856.05

Total on hand April 30, 1922.....\$35,102.87 \$54,424.18

#### JOURNAL STATEMENT

January 1, 1921 to December 31, 1921

#### Income

Advertising .....	\$7,830.15
Reprints .....	419.30
Subscriptions—non-members .....	68.20
Sales .....	30.81
Honorarium from A. M. A. Advertising Bureau .....	192.00
Subscriptions 1919 and 1920 members .....	17.00
Subscriptions 1921 members to May 15 .....	2,105.00
Subscriptions 1921 members from May 15 (244 members at \$2.00) .....	488.00
	\$11,150.46

#### Expenses

Printing—	
2- 64 page Journals.....	\$1,094.75
5- 68 page Journals.....	2,963.65
2- 72 page Journals.....	1,226.70
1- 84 page Journal ....	803.00

Des Moines, Iowa, May 3, 1922.			No.	1921	Amount
To Whom It May Concern:			572	6- 8	Mathis Metz Co., letter heads
This is to certify that Doctor Thomas F. Duhigg, Treasurer of the Iowa State Medical Society, has left the following bonds for safe keeping: (\$20,000 Liberty loan bonds, \$2,000 consolidated Independent School District of Meriden, Iowa. He also had to his credit as Treasurer \$10,734.70 in savings account and \$1,856.05 in checking account at the close of business April 30, 1922.			573	7- 5	President's office ..... 19.25
PEOPLE'S SAVINGS BANK,			574	7- 5	Welch Prtg. Co., May Journal ..... 615.75
Carl W. Mesmer,			575	7- 5	Iowa Press Clipping Bureau, May service ..... 5.00
Asst. Cashier.			576	7- 5	Central Engraving Co., half tones July issue..... 5.53
Expenditures of the Iowa State Medical Society, 1921-22.			577	7- 8	Dr. T. B. Throckmorton, Sec., salary, office assistant, June..... 120.00
No. 1921			578	7-19	Dr. D. S. Fairchild, salary, 4-1 to 7-1-21, secretary's service..... 408.64
Amount			579	8- 4	Welch Prtg. Co., June Journal and reprints ..... 654.05
550 5-17 Dr. T. B. Throckmorton, Sec. salary, office assistant.....\$ 100.00			580		Dr. T. B. Throckmorton, Sec., salary, office assistant, July..... 120.00
551 5-17 Thos. F. Duhigg, salary, stamps, miscellaneous ..... 163.93			581	8-15	Central Engraving Co., half tones, August issue..... 5.00
552 5-17 Iowa Press Clipping Bureau, April News Service..... 5.00			582	9- 7	Federal Prtg. Co., printing for Dr. Fairchild, Editor..... 21.61
553 5-17 American Med. Association, Copy 1921 A. M. A. Directory ..... 12.00			583	9- 7	McNamara-Kenworthy, office supplies ..... 3.75
554 5-17 American Badge Co., 1921 badges ..... 80.80			584	9- 7	Iowa Press Clipping Bureau, June and July news service..... 10.00
555 5-17 Dr. Lewis Schooler, postage, stationery, miscellaneous ..... 10.00			585	9- 7	Bankers Prtg. Co., letter heads, Secretary's office ..... 6.00
556 5-17 Dr. Wm. S. Windle, attorney's fees ..... 75.00			586	9- 7	C. L. Dahlberg Co., form letters, June, July, August..... 6.68
557 5-17 Central Engraving Co., half tones April-May ..... 13.28			587	9- 7	Upham Bros., bond, Secretary and Treasurer ..... 62.50
558 5-17 Plumbs Jewelry Store, engraving President's gavel..... 6.00			588	9- 7	Adelaide Folsom, reporting 1921 Session ..... 161.60
559 5-17 Welch Prtg. Co., April Journal and reprints ..... 966.30			589	9- 7	Welch Prtg. Co., July and Aug. Journals and reprints..... 1,648.47
560 5-17 Dr. J. W. Cokenower, payment Dahlberg Duplicating Co..... 79.68			590	9- 7	Dunshee & Brody, attorneys, attorney fees ..... 50.00
561 5-17 Dahlberg Duplicating Co., copy report, Legislative Committee ..... 32.03			591	9- 7	Dutcher & Davis, attorneys, medico-legal, April, May and June ..... 533.87
562 5-17 Dr. J. W. Cokenower, payment Dahlberg Duplicating Co., and stenographer ..... 113.85			592	9- 7	Dr. Edward Jackson, Denver, traveling expenses 1921 Session ..... 71.28
563 5-17 Dr. Samuel Bailey, trip, Osceola, 3-28-21, councilor..... 8.06			593	9- 7	Dr. T. B. Throckmorton, Sec., salary, office assistant, August ..... 120.00
564 5-17 Dr. Paul Gardner, expenses as councilor ..... 7.00			594	9- 7	Dr. T. B. Throckmorton, Sec., postage, rental, salary, etc..... 246.73
565 5-17 Dutcher & Davis, Jan., Feb., March, medico-legal service..... 483.18			595	9- 7	Dr. T. E. Powers, expenses August meeting trustees..... 15.95
566 5-17 Dr. T. B. Throckmorton, Sec., salary, office assistant..... 100.00			596	9- 7	Dr. W. B. Small, expenses August meeting trustees..... 9.42
567 5-17 Dr. T. B. Throckmorton, Sec., salary, postage, miscellaneous ..... 133.00			597	9- 7	Dr. J. W. Cokenower, expenses August meeting trustees..... 7.90
568 5-28 Dr. T. B. Throckmorton, Sec., expenses General Session..... 203.59			598	8- 5	Dr. T. B. Throckmorton, Sec., salary, office assistant, Sept..... 120.00
569 6- 8 Central Engraving Co., half tones, zinc etchings..... 10.75			599	8- 5	Dr. D. S. Fairchild, salary, July, Aug., Sept., misc. exp..... 410.48
570 6- 8 Ida J. Brinton, transactions House of Delegates 1921..... 25.00			600		Void
571 6- 8 Dr. T. B. Throckmorton, Sec., salary, office assistant, May..... 120.00			601	10- 7	Iowa Loan & Trust Co., bonds —Consolidated Independent School District, Meriden, Ia..... 1,909.16
			602		Void



No.	1921	Amount	No.	1922	Amount	
603	10-18	Welch Prtg. Co., Sept. Journal and reprints .....	634	2-25	C. L. Dahlberg & Co., form letters .....	2.48
604	10-18	Iowa Press Clipping Bureau Service, Aug. and Sept.....	635	2-25	American Medical Association, membership and record cards....	17.50
605	11- 9	Dr. T. B. Throckmorton, Sec., salary, office assistant, Oct.....	636	2-25	Federal Prtg. Co., letter heads, etc. ....	89.00
606	12- 6	Central Engraving Co., half tones .....	637	2-25	Welch Prtg. Co., Dec. Journal and reprints .....	720.35
607	12- 6	Bankers Printing Co., office supplies .....	638	2-25	Chas. M. Dutcher, attorney, medico-legal service .....	1,085.25
608	12- 6	Federal Prtg. Co., envelopes....	639	2-25	Kindig, McGill, Stewart and Hatfield, medico-legal service .....	50.00
609	12- 6	American Medical Assn., 1921 membership cards .....	640	2-25	Gerrit Klay, medico-legal service .....	150.00
610	12- 6	C. L. Dahlberg & Co., form letters .....	641	2-25	Dr. T. B. Throckmorton, Sec., salary, rental, etc.....	253.45
611	12- 6	McNamara & Kenworthy Co., office supplies .....	642	2-25	Dr. T. E. Powers, expense trustees meeting 2-21-22.....	15.04
612	12- 6	Mosby Book & Publishing Co., cuts Dr. Ruth's paper.....	643	2-25	Dr. W. B. Small, expense trustees meeting 2-21-22.....	10.18
613	12- 6	Dr. T. B. Throckmorton, Sec., salary, office assistant.....	644	2-25	Dr. J. W. Cokenower, expense trustees meeting 2-21-22.....	9.70
614	12- 6	Welch Prtg. Co., Oct. and Nov. Journals .....	645	2-25	Dr. H. B. Jennings, expense trustees meeting 2-21-22.....	10.90
615	12- 6	Dutcher & Hambrecht, attorney fees .....	646	3- 6	Welch Prtg. Co., January Jour.	467.80
616	12- 6	Robert M. Haines, attorney fees .....	647	3- 6	Welch Prtg. Co., reprints Jan. issue .....	45.15
617	12- 6	H. F. Barthell, attorney fees .....	648	3-31	Dr. T. B. Throckmorton, Sec., salary, office assistant, Feb.....	120.00
618	12- 6	C. E. Cooper, attorney fees.....	649	3-31	Dr. T. B. Throckmorton, Sec., salary, office assistant, March .....	120.00
619	12- 6	Dunshee & Brody, attorney fees .....	650	3-31	Welch Prtg. Co., Feb. Journal and reprints .....	534.55
620	12- 6	Iowa Press Clipping Bureau, Oct. and Nov. service.....	651	4-10	Central Engraving Co., half tones, April issue.....	9.40
621	12- 6	Dr. T. F. Duhigg, deficit entertainment fund .....	652	4-10	Dr. D. S. Fairchild, salary, Jan., Feb., March, misc. exp.....	412.05
622	12- 6	Dr. W. B. Small, expense trustees meeting 11-29-22.....	653	4-19	Bastian Bros., badges, 1922 Session .....	70.16
623	12- 6	Dr. T. E. Powers, expense trustees meeting 11-29-22.....	654	4-26	Welch Prtg. Co., March Jour. and reprints .....	550.50
624	12- 6	Dr. J. W. Cokenower, stationery and stamps.....	655		Void .....	
625	12- 6	Dr. Donald Macrae, expense as President, 1921-22 .....	Total expended.....			\$19,871.81
626	12- 6	Dr. T. B. Throckmorton, Sec., postage, rental, etc.....				Thos. F. Duhigg, Treasurer.
No.	1922	Amount				
627	1- 5	Dr. T. B. Throckmorton, Sec., salary, office assistant.....	REPORT OF BOARD OF TRUSTEES			
628	1- 9	Dr. D. S. Fairchild, salary, Oct., Nov., Dec., misc. expense .....	The report of the Board of Trustees was given by the Chairman, Dr. J. W. Cokenower. Motion made and duly seconded, that the report be received and placed on file. Carried.			
629		Void .....	The report follows:			
630	1-16	Central Engraving Co., half tones .....	The reports of our Secretary and Treasurer show our Society's finances to be in good condition.			
631	1-16	Iowa Press Clipping Bureau, December service .....	Many of the State Medical Societies have been compelled to increase their members annual dues in order to make ends meet, but the Iowa State Medical Society has not found this necessary, and has not only broken even, but made an average gain of \$4,-			
632	2- 3	Dr. T. B. Throckmorton, Sec., salary, office assistant.....				
633	2-25	Iowa Press Clipping Bureau, news service, Jan. and Feb.....				

\$45.23 each year from 1916-1917 to 1921-1922, or a total gain for the six years mentioned of \$27,271.38; this added to our funds on hand, prior to the above mentioned time, makes our present assets \$35,482.62, not including a well equipped office for our business manager and assistant. The amount just mentioned includes Liberty Bonds, (2) \$20,000; Consolidated School Bonds, \$2,000; Des Moines Morris Plan Bank \$2,000; time deposits, \$9,154.77; and checking account (April 6, 1922), \$2,327.95, all deposited in the People's Savings Bank, Des Moines, by our Treasurer.

These figures have been compiled for your information and not with a view of, or expecting any change in our annual dues, but on the contrary to emphasize the importance of not doing so, for reasons explained later.

The increasing of our funds without increasing our dues, prompted your board last November to give our efficient Editor and Business Manager all the needed space and additional pages to our Journal necessary for advertising and reading matter—this has increased our Journal from 64 pages, the original contract, with our printer, to many pages more and some issues nearly double that number of pages, as well as materially increasing the cost, with the result that our Journal is equal to, if not the best, State Medical Journal in the United States.

The past year's net receipts used in averaging the past six years income, has somewhat of a different complexion from a financial viewpoint as compared with the past, caused by the extra expense in printing our Journal, and especially the amount paid our attorney and local attorneys in defending damage suits, which amounted to \$4,988, so that really we about broke even. It is but due our worthy Defense Committee to state that they have worked hard to keep the Defense expenses down and have done well, considering the amount of work done.

However, it is the purpose of your Board, through our Editor and Business Manager to continue to improve our Journal, so it will be a welcome, readable, monthly visitor to your homes, and so attractive that the doctors, who want to belong to our State Society, but don't want to pay for the Journal or contribute to the Defense fund will be glad to do so.

J. W. Cokenower, Chairman,

W. B. Small,

T. E. Powers,

Committee.

No report from the Council.

#### REPORT OF MEDICO-LEGAL COMMITTEE

Dr. D. S. Fairchild, Chairman, presented the report of the Medico-Legal Committee. It was moved and seconded that the report be received and placed on file. Carried.

The report follows:

Report of the Committee on Medical Defense varies from year to year according to experience of the Committee. We have filed in our office between

April 1, 1921 and April 1, 1922, twenty-five new cases in thirteen of which suit was commenced, seven of fracture and the remainder a general variety of cases.

I am presenting to you with this report, the statistical report of our attorney, Mr. C. M. Dutcher. In this you will discover the nature of the claims made against doctors. Altogether 289 cases of which 194 were sued. The number of fractures being 79. The second frequent class of claims are x-ray burns, and the second most common is operation on the appendix. It is interesting to note the causes which may give rise to malpractice suits. They are of course, somewhat numerous. Most of the cases grow out of bad feeling which has been engendered by as many causes as generally gives rise to disputes among men.

We have on analyzing the cases come to various conclusions. We have sometimes thought that it was from ungenerous statements made by other physicians. We sometimes thought the cause was due to doctors attempting to collect bills which patients thought excessive or in which they did not get the services they expected, or from harsh measures that have been employed in collecting a bill. We have sometimes thought that the cause was due to the doctor not exercising proper skill. We have sometimes thought that the cause was negligent care on the part of the doctor.

On careful analysis of the cases from year to year, it is found that there is no single predominating cause. All these factors have been active one time or another. What we have found to be true in Iowa, has also been true in other states.

We have had fourteen years of continuous experience, and have endeavored to give each individual case a thorough and analytic study. We have also diligently inquired into the published reports of other state societies. We find numerous references but only one we will mention, partly from its source, showing that no class of practitioners feel themselves safe.

Dr. Arthur L. Chute, of Boston, in his presidential address before the New York meeting of the American Urological Association says:

"There is in this country at large, so far as I can learn, an alarming increase in the number of malpractice suits that are being brought against physicians. This condition is not due, so far as I can determine, to physicians being less careful than heretofore of the interests entrusted to them but to other changes that have taken place in the community as a whole. I feel that our members coming from all parts of the country as they do should take this problem up with their state medical societies, and should see if some way can be found to lessen the annoyance, financial loss, and injustice that many of these suits have brought to medical men."

#### The Cost of Medical Defense

The expense of carrying on medical defense during the past year has been very heavy, notwith-



standing the fact that a part of the expense in certain cases has been borne by commercial insurance companies.

We have paid our attorney, Mr. C. M. Dutcher, during the past year or from April 1, 1921 to April 1, 1922 as follows:

April to July, 1921.....	\$ 533.87
July to October, 1921.....	1,081.47
October to January, 1922.....	1,085.25
January to April, 1922.....	1,193.42
Total.....	\$3,894.01

We have paid local attorneys as follows:

R. M. Haines, in re: Theodore Franzen vs. Dr. L. E. Kauffman from September 24 to 30, 1921, including expenses.....	\$ 355.73
Gerrit Klay, in re: Dr. H. A. Bolstad vs. Bert Wallings, 4 days' trial work ending Nov. 10, 1921.....	150.00
C. E. Cooper, in re: Vandervelden, vs. Dr. Waterhouse, Sept. 19, 1921 to 5 days' trial, including expenses .....	132.70
H. F. Barthell, in re: Theodore Franzen vs. Dr. L. E. Kauffman, assisting C. M. Dutcher, Sept. 26, 27, 28 and 29, four days' service on said case.....	125.00
Livingston & Eicher, in re: Ello Noel vs. E. T. Wickman, one trip to Iowa City to attend conference with Dr. Dutcher and others .....	100.00
Kindig, McGill, Stewart and Hatfield, in re: Berberich vs. Dr. McHugh, Feb. 8, 1922.....	50.00
Dunshee & Brody, in re: Cogley vs. Unger, to professional service from March 7, 1921 to June 11, 1921.....	50.00
Molyneux, Maher and Meloy, in re: Mann vs. Kas, to one and one-half days time in preparation of case.....	37.50
Dunshee & Brody, in re: John Cogley vs. D. Unger, to professional services in the final settlement of the case, from September 1, 1921 to October 1, 1921.....	20.00
Total.....	\$1,020.93

We have practiced the closest economy possible, considering the safety of the individual defendant. There has been a variety of opinion expressed as to the reason why so many claims are made against doctors. This I think is best answered by the quotation above referred to.

It may be that commercial malpractice insurance has encouraged some of the suits on the ground of greater certainty of collecting damages, but the reason in my judgment is not so easily explained. We believe at the present time that it is better for the profession that we co-operated with commercial insurance companies, with the view of securing the most efficient defense in malpractice suits.

We have certain bad years on account of a series of cases coming to trial in rapid succession. It is

to be hoped next year, there will be a smaller number of cases coming before the committee.

### STATUTE OF LIMITATIONS

We desire to call attention to the fact that the statute of limitation in Iowa for claims of malpractice runs two years, that is: if a claimant fails to file notice of suit until after the expiration of two years from the last treatment, he is barred from commencing suit on account of the expiration of statute of limitation, except when the patient is a minor, then the statute of limitation does not expire until the patient has reached the age of twenty-one years, and one year more. In all cases of dispute of the nature of malpractice and a settlement is made, it must be accomplished in accordance with certain legal procedure which our attorney will provide for.

### REPORT OF MALPRACTICE CASES

During the last year, thirteen new cases have been begun and seventeen have been disposed of. At the date of our last report there were thirty cases pending, whereas, now there are but twenty-six.

Of the cases now pending, a large number of them have been pending for some years, and, in our judgment, will never be tried. There are five cases pending in Woodbury county, which remains the banner county for malpractice cases.

During the year two judgments were recovered against members of the Society, one for \$6,000 and one for \$350. Motions for new trials are pending in each of these cases, but in our opinion, the judgment of \$350 should be paid and not appealed.

Owing to the fact that a considerable number of the defendants who have been sued during the last year carry commercial indemnity six cases were settled during the year. The particulars of the settlements will be set out with the report of each case.

### LIST OF CASES DISPOSED OF FROM APRIL, 1921 TO APRIL, 1922

1. This case was brought in the district court of Decatur county in 1915, and after having assigned it for trial many times, plaintiff finally dismissed it last December at plaintiff's costs. This disposition is final.

2. This action involving a claim for \$20,000 involved alleged negligence in the treatment of a fracture and dislocation of the clavicle has been pending for some years. The claim, however, has been abandoned and the matter finally disposed of without any expense to the doctor's estate.

3. This action was pending in Woodbury county for seven years. Nearly every term of court the plaintiff filed a trial notice but always relented before the case was reached. It was finally dismissed in January and is disposed of.

4. This case was dismissed by plaintiff after four years of effort to secure some kind of a settlement. The statute of limitations has run and the case is ended.

5. This action was pending in the Webster county district court for four years and involved a claim of \$10,000 for alleged negligence in a mastoid operation. After repeated threats to bring the case to trial, the plaintiff finally dismissed it and the time has elapsed for commencing it over again.

6. This action was begun in Washington county in 1919 and involved the treatment of an injury to the plaintiff's hand. The case was dismissed at plaintiff's costs.

7. This case promised to be of considerable importance owing to a factional controversy among the doctors in Mason City, but it was amicably adjusted to the satisfaction of the profession by the payment of \$50 by the Ft. Wayne company. The case is finally disposed of.

8. This action was brought in the Jasper County District Court and after three years has been dismissed at plaintiff's costs and is finally disposed of.

9. This action was brought in 1920 in the District Court of Polk County for negligence in the removal of wax from plaintiff's ear, resulting in bloodpoisoning. Plaintiff was in the army at the time, and considerable effort was made by us to locate the witnesses. The case was set for trial once or twice but was finally dismissed by plaintiff at his costs.

10. The defendant in this case was formerly a practicing physician in Iowa and subsequently removed to Kansas City, Missouri. While a resident of Iowa he treated a fracture of the right ilium of plaintiff and failed to discover a fracture. Depositions were taken in the case but they were of such a nature that upon the trial of the case in the courts of Missouri the court directed a verdict for the defendant. The case is finally disposed of.

11. This action was begun in the O'Brien County District Court for the September term, 1920. Damages in the sum of \$15,000 were asked for alleged negligence in treating a fracture of the tibia. The patient died during the treatment. Depositions were taken in Chicago and the plaintiff finally abandoned the case and dismissed it at plaintiff's costs. It is finally disposed of.

12. This case was begun for the January term, 1921, of the District Court of Winneshiek County, asking a judgment for \$10,000 for negligence in the treatment of a fracture of the tibia and fibula. The case was tried in September and a verdict directed for the defendant. No appeal has been taken, and the case is finally disposed of.

13. This action was brought in Polk county in 1921 for negligence in tying the umbilical cord of plaintiff's infant son, who died as a result of a hemorrhage. The case was set for trial and upon the day it was reached we effected a settlement of the case by the payment of \$250. The case was a dangerous one and we regard the settlement as justified.

14. This action was brought for the March term, 1922, in the District Court of Carroll County for

\$10,000 damages for alleged negligence upon the part of the clinic in caring for plaintiff during child birth. The defendants performed an operation and a part of the gauze was left in the wound. It was the judgment of the Medical Defense Committee that it should be adjusted if possible and we regarded it as a very dangerous case. It was settled by the payment of \$700 in damages. The amount was paid by the Ft. Wayne company which carried the indemnity.

15. This action was brought in the District Court of Polk County for the January term, 1922. Defendant operated upon plaintiff for the removal of a cancerous formation from her breast. Plaintiff charged that gauze used in the operation was sewed up in the wound and negligently permitted to remain there, requiring several subsequent operations and resulting in a general infection of the wound. The result was bad and it seemed to be beyond question that the gauze had been overlooked in the operation. The case was settled by the Ft. Wayne company paying \$1000 upon our advice. The damages asked were \$10,000.

16. This action was brought in the District Court of Dubuque County for professional services rendered the defendants in the sum of \$1363. Defendants filed a counter claim charging malpractice and asking judgment for \$10,000. The malpractice, if any, having occurred more than two years before the filing of the claim, we took the position, after conferring with the Medical Defense Committee, that we were not justified in doing more than preventing the defendants from recovering anything on their counterclaim. The malpractice claimed was that in performing an operation on the defendant, Emma Hafkemeyer, for a diseased ovary an incision was negligently made into the intestine, and that she subsequently had to have an operation performed at Rochester, Minnesota. We filed and submitted the necessary pleadings to eliminate any claim for malpractice in excess of the amount claimed by plaintiff, and upon the trial a verdict was for the defendants, which meant, of course, that the defendants secured no damages and the plaintiff failed to recover for his services.

17. This action was brought for the January term, 1922, of the Union County District Court on a note executed by defendant in the sum of \$104.35 for balance of professional services, defendant having paid \$300 in cash. The operation was for appendicitis and was performed upon the child of defendant. Defendant counterclaimed and charged malpractice on the part of plaintiff in leaving a part of the gauze used in the operation in the body of the child. An investigation of the facts showed conclusively that the gauze was not removed by plaintiff and that it was an exceedingly dangerous case. Upon advice it was settled by the cancellation of the note for \$104.35 and the payment of \$100 in cash.

D. S. Fairchild, Sr.,  
Chairman.



# CONDENSED REPORT OF CASES AGAINST MEMBERS OF THE IOWA STATE MEDICAL SOCIETY, 1921-1922

To Dr. D. S. Fairchild, Dr. H. B. Jennings, and Dr. Lewis Schooler, Medical Defense Committee.  
Gentlemen:

We have submitted a full report upon all cases pending at the date of our last report and also of cases commenced since that date. The following is a summary of certain particulars in all cases commenced since the establishment of the Medical Defense Committee of the Society.

Cases commenced since organization of department .....	194
Cases commenced prior to the report of 1909.....	15
Cases commenced during 1909-1910.....	13
Cases commenced during 1910-1911.....	10
Cases commenced during 1911-1912.....	14
Cases commenced during 1912-1913.....	13
Cases commenced during 1913-1914.....	10
Cases commenced during 1914-1915.....	24
Cases commenced during 1915-1916.....	19
Cases commenced during 1916-1917.....	17
Cases commenced during 1917-1918.....	13
Cases commenced during 1918-1919.....	14
Cases commenced during 1919-1920.....	7
Cases commenced during 1920-1921.....	12
Cases commenced during 1921-1922.....	13
Cases pending at date of 1909 report.....	7
Cases pending at date of 1910 report.....	10
Cases pending at date of 1911 report.....	14
Cases pending at date of 1912 report.....	25
Cases pending at date of 1913 report.....	26
Cases pending at date of 1914 report.....	21
Cases pending at date of 1915 report.....	28
Cases pending at date of 1916 report.....	33
Cases pending at date of 1917 report.....	33
Cases pending at date of 1918 report.....	29
Cases pending at date of 1919 report.....	29
Cases pending at date of 1920 report.....	26
Cases pending at date of 1921 report.....	30
Cases now pending.....	26
Total cases disposed of.....	173

## Nature of Cases

Malpractice in removing seed wart.....	1
Malpractice in not discovering and uniting severed ligaments of the wrist.....	1
Alleged assault .....	2
Removal of cancer of the hand.....	1
Conspiracy to have plaintiff declared insane.....	2
Fracture of the arm.....	28
Fracture of leg or femur.....	51
Appendicitis—sponge case .....	2
Caesarean operation—sponge case.....	1
Cancer in breast—sponge case.....	1
Operating for kidney—sponge case.....	1
Appendicitis, malpractice in operation.....	5
Appendicitis—exploratory opening .....	1
Childbirth, alleged failure to attend after alleged agreement to do so; child died (separate action by father and mother).....	2

Libel for testifying patient was insane.....	1
Hand crushed, alleged improper treatment.....	1
Failure to discover sub-caracoid dislocation of shoulder joint .....	1
Hand lacerated, alleged improper treatment.....	1
Ear, alleged improper treatment.....	2
Eye, alleged improper treatment.....	1
Infection, childbirth .....	2
Medical treatment of child.....	1
Abortion, improper after-treatment.....	3
Abortion, without justification.....	2
Improper treatment of nail puncture in foot.....	1
Alleged removal of wrong kidney.....	1
Stomach trouble, alleged improper treatment and failure to treat.....	1
Anesthetic, death under.....	1
Improper diagnosis of diphtheria.....	1
Improper diagnosis of broken ribs.....	1
Removal of uterus, alleged negligent incision of the bladder .....	1
X-ray burn .....	6
Infection following amputation.....	1
Alleged improper treatment of scald.....	1
Removal of adenoids.....	2
Alleged improper abdominal incision.....	3
Failure to administer serum, patient died of lock jaw .....	1
Fracture of collar bone.....	3
Willful insertion of instrument, producing abortion .....	1
Operation for pregnancy of fallopian tube.....	1
Negligence in administration of poison, causing death .....	1
Improper treatment of wound in leg from kick of horse .....	1
Alleged negligence in communicating erysipelas to woman in childbirth.....	1
Negligence in suffering patient mentally delinquent to jump out of unguarded window in private sanitarium .....	1
Negligent amputation of finger.....	3
Negligence in attending and severing cords of hand .....	1
Wrongfully administering morphine.....	1
Communicating small-pox to patient in hospital .....	1
Fracture of lower jaw.....	1
Dislocation of knee.....	1
Cancer of stomach.....	1
Draining pelvic abscess.....	1
Operation for tonsils without consent.....	2
Negligent incision into intestine—ovarian tumor .....	1
Negligence in removing button from child's throat .....	1
Hot water bottle burn.....	1
Failure to discover fractured vertebrae.....	1
Improper treatment of vaginal infection.....	2
Improper treatment of inflammatory rheumatism .....	2
Negligent removal of tonsils.....	3
Negligent treatment of gunshot wound.....	1
Negligent treatment of abscess of bladder.....	2
Negligent treatment of abscess under arm.....	1
Wrong diagnosis of sprain of ankle.....	1

Failure to properly tie umbilical cord.....	1
Failure to discover fracture of ilium.....	1
Exposing patient to scarlet fever by wrong diagnosis .....	1
Improper treatment of insect bites.....	1
Negligent treatment of fractured finger.....	2
Improper treatment of fractured foot.....	1
Paralysis of facial nerves in mastoid operation....	1
Failure to diagnose abscess of kidney.....	1
Improper treatment of ligaments of wrist.....	1
Negligence in tying patient in bed, resulting in gangrene and amputation of leg.....	1
Exploratory opening for diagnostic purposes, negligence in exposing person, resulting in death of child.....	1
Negligent burn by radium.....	1
Total amount of damages claimed in all cases to date.....	\$2,028,523.00
Judgments recovered against members....	7
Aggregate amount of judgments.....	\$ 15,125.00
Consultation on cases threatened in which no proceedings were had.....	100

Respectfully submitted,  
Dutcher & Hambrecht.

Iowa City, Iowa, May 1, 1922.

No report from Committee on Health and Public Instruction.

No report from Committee on Eugenics.

No report from Committee on Conservation of Vision and Hearing.

No report from Committee on Legislation and Public Policy.

#### REPORT OF COMMITTEE ON PUBLICATION

The report of the Committee on Publication was given by the Chairman and Editor, Dr. D. S. Fairchild. It was moved and duly seconded that the report be received and placed on file. Carried.

The report follows:

The most important features in a report by this Committee, have already been presented by the Secretary of the State Medical Society under the head of his own financial report which covered the earnings and the expense of the Journal.

It is to be hoped that, at least, the members of the House of Delegates have read portions of the Journal during the past year, and are quite capable of judging for themselves without the assistance of the Committee, as to its merits. The chairman of the Board of Trustees, who makes the contracts for publishing the Journal, has reported to you the cost of publication and the comparison with other years.

We increased the reading pages slightly last year to find a place for some very important papers read before the Tri-State Medical Societies of Iowa, Illinois and Wisconsin. In 1920, we published 430 pages and 1921, 492, which compares favorably with the societies of other states having our population.

It is to be noted that in most states, there is more than one journal published.

We are pleased to say to the credit of our profession, that we find very few Iowa contributors presenting their papers to outside Journals, and it is a source of considerable gratification to us that members of the profession outside of Iowa seem to find satisfaction in sending their papers to us for publication.

#### MEDICAL HISTORY

There is a growing interest in all the states towards the gathering of data in relation to the early history of medicine in the state. We had our attention drawn to this in 1876, when we were placed on a committee to prepare a history of medicine in Iowa for the centennial.

In accordance with this provision, we secured much data from men still living that had to do with the first physicians to locate in certain regions in Iowa. With this data and what we have been able to gather from various sources, we have been able to secure a large amount of reliable data, concerning the men that helped to develop the State of Iowa, not only advancing the cause of medicine in our own midst, but helping to develop the common wealth in the legislative and in other civic offices.

We have published these papers in installments in the Journal, and have provided that it will all be published in book-form when we have completed the work. We are gratified to observe that other states are doing the same work through committees appointed, and it is a satisfaction to us to devote a portion of our later days in gathering material, that might easily be lost to the profession of Iowa. When the days of acute struggle have passed, we find more leisure to reflect on what our profession has done in the way of public service.

D. S. Fairchild, Sr.,  
Chairman.

#### REPORT OF THE MEDICAL LIBRARY COMMITTEE

The report of the Medical Library Committee prepared by Mr. Johnson Brigham, State Librarian, was read by Dr. D. S. Fairchild, Chairman of the Library Committee. Upon motion, duly seconded, and carried, the report was received.

Des Moines, Iowa, April 5, 1922.

Dr. D. S. Fairchild,  
Clinton, Iowa.

Dear Dr. Fairchild:

Answering your request of March 27, for a report on the condition of the Medical Library, I wish to report as follows:

Since Miss Margaret Brinton's report in the July, 1921, issue of the Iowa State Medical Society Journal, the library has added about 500 volumes, and the number of journals has increased from 80 to nearly 100. I am sending you herewith a list of the medical periodicals currently received. In addition to these, several others are received more or less regularly as gifts.



The number of people using the library shows a gradual and rather satisfactory increase. During the first three months of 1922, we loaned 337 books, as compared with 280 for the corresponding period in 1921. During the same period 271 people visited the library in 1922, as compared with 149 visitors in 1921. At present there are 230 names on our list of patrons, a considerable increase since March, 1921. There is, of course, a proportionate increase in our correspondence, as the number of out-of-town patrons increase.

The plan of keeping the late journals unbound for several years is proving very satisfactory. It is easier and less expensive to send out a single number of a journal, than an entire bound volume, and at the same time the other numbers are available for the use of others.

We are considerably handicapped in our reference work, by our incomplete files of periodicals, also by the lack of a sufficient number of up-to-date books. Even with our incomplete and inadequate resources, the Medical Library is capable of serving a larger number of users than are at present taking advantage of our services. Anything that the Iowa State Medical Society can do in the way of making known our willingness to serve will be appreciated. In addition to our own resources, we are able in many cases to borrow from the larger libraries in Chicago and the East.

Very truly yours,  
Johnson Brigham,  
Librarian.

#### List of Periodicals Available at the Medical Library. Des Moines

American Journal of Anatomy.  
American Journal of Diseases of Children.  
American Journal of Hygiene.  
American Journal of the Medical Sciences.  
American Journal of Ophthalmology.  
American Journal of Pharmacy.  
American Journal of Physiology.  
American Journal of Psychiatry.  
American Journal of Public Health.  
American Journal of Roentgenology.  
American Journal of Surgery.  
American Journal of Syphilis.  
American Medical Association Journal.  
American Review of Tuberculosis.  
Annals of Medical History.  
Annals of Otolaryngology and Rhinology.  
Annals of Surgery.  
Archives des Maladies de l'Appareil Digestif et de la Nutrition.  
Archives of Dermatology and Syphilology.  
Archives of Diagnosis.  
Archives of Internal Medicine.  
Archives of Neurology and Psychiatry.  
Archives of Pediatrics.  
Archives of Surgery.  
Boston Medical and Surgical Journal.  
British Journal of Children's Diseases.  
British Journal of Ophthalmology.  
British Journal of Surgery.  
British Medical Journal.  
Canadian Medical Association Journal.  
Chicago Medical Recorder.  
Cincinnati University Medical Bulletin.  
Colorado Medicine.  
Dementia Praecox Studies.  
Dental Digest.  
Deutsche medizinische Wochenschrift.  
Deutsches Archiv für klinische Medizin.  
Endocrinology.  
Heart.  
Illinois Medical Journal.  
Index Medicus.  
Indiana State Medical Association Journal.  
International Abstract of Surgery.  
Iowa Dental Bulletin.

Iowa Homeopathic Journal.  
Iowa State Medical Society Journal.  
Johns Hopkins Hospital Bulletin.  
Journal of American Institute of Homeopathy.  
Journal of Bacteriology.  
Journal of Biological Chemistry.  
Journal of Cancer Research.  
Journal of Experimental Medicine.  
Journal of General Physiology.  
Journal of Immunology.  
Journal of Industrial Hygiene.  
Journal of Infectious Diseases.  
Journal of Laboratory and Clinical Medicine.  
Journal of Medical Research.  
Journal of Metabolic Research.  
Journal of Nervous and Mental Diseases.  
Journal of Organotherapy.  
Journal of Orthopaedic Surgery.  
Journal of Pathology and Bacteriology.  
Journal of Pharmacology and Experimental Therapeutics.  
Journal of Urology.  
Lancet.  
Medical Clinics of North America.  
Medical Record.  
Medical Science Abstracts and Reviews.  
Medizinische Klinik.  
Mental Hygiene.  
Military Surgeon.  
Minnesota Medicine.  
Missouri State Medical Association Journal.  
Modern Hospital.  
National Dental Association Journal.  
Nebraska State Medical Journal.  
New York Medical Journal.  
Office International d'Hygiene.  
Ophthalmic Literature.  
Pennsylvania Medical Journal.  
Physiological Reviews.  
Public Health Nurse.  
Quarterly Cumulative Index to Current Medical Literature.  
Quarterly Journal of Medicine.  
Revue de Chirurgie.  
Revue de Medecine.  
Rhode Island Medical Journal.  
Royal Society of Medicine Proceedings.  
Surgical Clinics of North America.  
Surgery, Gynecology and Obstetrics.  
Texas State Journal of Medicine.  
U. S. Naval Medical Bulletin.  
U. S. Public Health Service.  
Virchows Archiv.  
Zeitschrift für Psychotherapie und Medizinische Psychologie.

Announcement was made that the delegates from the various congressional districts assemble and select a member from each district to act upon the Nominating Committee.

Upon motion the meeting adjourned at 5:40 p. m.

The delegates from the various congressional districts then assembled to select a member from the respective districts to act upon the Nominating Committee.

The committee reported was:

First District—E. E. Sherman, Keosauqua.  
Second District—W. P. Hutchins, Marengo.  
Third District—J. C. Shellito, Independence.  
Fourth District—G. A. Plummer, Cresco.  
Fifth District—J. M. Young, Center Junction.  
Sixth District—J. F. Herrick, Ottumwa.  
Seventh District—E. B. Bush, Ames.  
Eighth District—W. F. Amdor, Carbon.  
Ninth District—V. L. Treynor, Council Bluffs.  
Tenth District—A. H. McCreight, Fort Dodge.  
Eleventh District—A. M. Bilby, Galva.

V. L. Treynor,  
Chairman.  
J. F. Herrick,  
Secretary.

**Second Meeting—Thursday, May 11, 1922**

The House of Delegates met in Room 322 Hotel Fort Des Moines and was called to order at 8:10 a. m. by President Pond.

Ten officers and forty-three delegates responded to roll call.

The reading of the minutes of the previous meeting was deferred.

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No report from the Committee on Legislation and Public Policy.

No Report from Committee on Health and Public Instruction.

No report from Committee on Eugenics.

No report from Committee on Conservation of Vision and Hearing.

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**REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS**

The report of the Committee on Constitution and By-laws was presented by the Chairman of the Committee, Dr. V. L. Treynor. In accordance with the provisions of the By-laws, the report was laid upon the table.

The recommendations follow:

Chap. 4. Section 11. Adding the words "through the Secretary" after the word present in the first line.

By adding to Chapter 8 of the By-laws new sections as follows: Section 11. "The Committee on Constitution and By-laws shall consist of three members. It shall be the duties of the committee to propose such amendments to the constitution and by-laws as is deemed wise and judicious, and to bring before the House of Delegates such amendments as it, or other members of the Society, may care to present for consideration."

Section 12. The Committee on Finance shall consist of three members, whose duty it shall be to audit the books of the Society and to make a report of its findings to the House of Delegates.

Chapter 6. Section 3. To read as follows: "The Treasurer shall give bond in such sum as shall be determined by the Board of Trustees."

Chapter 6. Section 3. To strike out the words, "the sum of \$20,000" (in line 1-2) and substitute the words, "such sum as shall be determined by the Board of Trustees," and adding to same section the following:

"The amount of the Treasurer's salary shall be fixed by the House of Delegates and shall be paid annually."

Chapter 8. Section 8. Be amended by striking out all words after the word "Society" in line 5, page 19 and substituting: "All bills for Medico-Legal Defense, after approval by the committee and the Board of Trustees shall be subject to warrants drawn in the prescribed manner."

Chapter 8. Section 9. Be repealed and the following substituted: "That a committee on Field Activities be made a standing committee and that its duties include those formerly delegated to the Health and Public Instruction Committee and such other duties as may be prescribed."

V. L. Treynor,  
Chairman.

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**THE FIELD ACTIVITIES COMMITTEE**

Dr. F. E. Sampson, Chairman, presented the report of the Field Activities Committee which, on account of the nature of the report, and in accordance with the by-laws was laid upon the table for one day.

The report follows:

**INTRODUCTORY**

In his Presidential Address one year ago, Dr. Donald Macrae declared it was his belief that, in so far as medical service delivered to the people of Iowa might fall short of the highest attainable quality, such shortage was due to lack of sustainedly functioning medical organization rather than to inferiority of Iowa's doctors as individual practitioners.

He insisted that with adequate and equitably distributed institutional facilities, activation of existing medical organizations, sustained and intelligently directed co-operation between the county medical societies and other organizations and institutions of the local communities, the counties and the state, that Iowa would add to her list of prizes for leadership, that of having not only the most adequate, but the most equitably distributed and highest average quality of medical service.

The unanimous and enthusiastic applause that greeted Dr. Don's declaration was the natural human reaction to a high compliment.

A politician seeking personal preferment would have stopped there. But with the insistent practicality characteristic of his race, the 'canny scot' followed up with a proposition that the Iowa State Medical Society establish the right of its members to such high encomium, by concerted action in line with certain recommendations set forth in the resolutions which provided for the creation of the special committee on "Field Activities."

Before proceeding to discuss the more definite details of our report, it seems well that we call attention to a few outstanding facts that give distinction to this action initiated by our State Medical Society.

Other state societies have talked about, and some have actually employed a full time Secretary. So far as I know, the American Medical Association is the only one that has seriously considered establishing Field Activities in the sense set forth in the resolutions that created our committee and not until the Iowa State Medical Society had delegated to a special committee the duty of actually **doing** the thing, did our American Medical Association decide to actually establish Field Activities, and employ a



Field Secretary. (Dr. Olin West, who has only within the past month taken up his duties.)

The point to be impressed in the above statement, is that your Committee has been doing pioneer work—it had no beaten path to follow, no maps based upon accurate surveys of the field and furthermore, the members soon came to realize that here was not only a new mechanism to be evolved, but that its functioning involves an entirely new feature—almost a new principle in medical organization, as we have known it in the United States.

**It Recognizes the County Medical Society as an Actual Animated Entity**—An aggregation of local practitioners of medicine functioning as a local influence in local affairs and collaborating with other local forces in definite local programs that aim to solve problems of importance to people of the local community, as well as to the local practitioners. This in contrast with policies thus far followed by the American Medical Association and by our State Societies in which the central organization distributed its service to the members as individuals, and, aside from collecting annual dues of such members, neither demanded of, nor delivered to the county society much, if anything, more than recognition as a register of local members of the State Society.

The object of the proposed Field Activities is to develop our county societies as responsive and responsible medical aggregations, that shall sustainedly function as local forces and have the collaboration of other local agencies concerned with related activities, and with a program adapted to the needs of the local community.

## INTERPRETATION OF THE RESOLUTIONS

By way of introduction to the definitely propositional features of our report, your committee has found no occasion for modification of the fundamental law or revision of the declared purposes of the Iowa State Medical Society.

In other words, the procedures best calculated to serve the purposes of the proposed Field Activities, are not re-revolutionary but evolutionary in character.

It is not in further multiplication of organizations and special committees so much as in activation and coordination of those already in existence or provided for in the Constitution and By-laws of our state and county societies; and in effecting sustained working relations between medical organizations and other agencies concerned with related activities.

All the objects of the proposed field activities, implied as well as stated, predicate upon the first, second and third.

1. To perfect organization of county societies.
2. To stimulate activity of such societies along public health lines.
3. To effect cooperation between county societies and other organizations of the community.

The extent to which we accomplish the activation of county societies, their participation in public health activities, and their cooperation with other

agencies, will measure our progress toward the main objective which is—to promote:

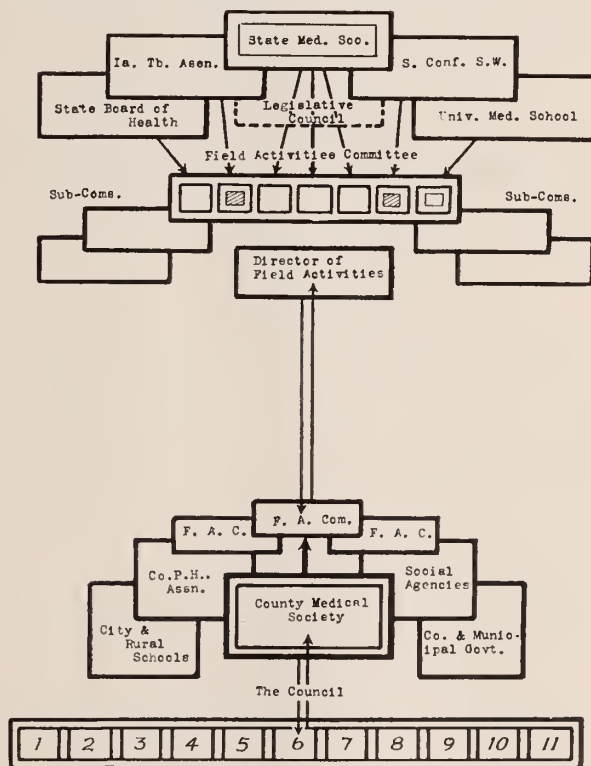
Adequate, efficient and equitably distributed medical service throughout the State of Iowa.

Since the achievement of the first and second are pre-requisite to achieving the third, we may reduce our proposition to the simple statement that in order to successfully advance distribution and delivery of medical service throughout the state, we must effect cooperation between our county medical societies and other organizations and institutions operating in their respective counties.

The first step to be taken by the State Medical Society to activate its county components and effect cooperation between them and other county organizations and institutions, would be to effect cooperation between the State Medical Society and other state organizations and institutions.

It is of interest to note, that your committee's survey of the situation reveals that, the attitude of organizations and institutions that should logically be in a working alliance with the state and county medical societies, is receptive; and, that if any considerable persuasion is required, it will not be in persuading the public to cooperate with us as much as in persuading ourselves to becomingly participate in lay endeavors that aim to facilitate better delivery of our own service, as a profession, and the prosperity of

Upper portion of diagram showing sources from which the Field Activities Committee derives its members.



Lower portion of diagram showing the general plan of effecting coordination of local county forces with the County Medical Society as contemplated in the recommendations of the committee.

individual practitioners through increasing the actual value of their services and educating the public to a higher appreciation of such service.

### RECOMMENDATIONS

To the President and Members of the House of Delegates:

The Committee on Field Activities, appointed pursuant to Resolutions adopted by your honorable body May 13, 1921, respectfully submits the following recommendations.

1. That Section 9 of Chapter VIII of the By-laws be repealed and in its stead, the following adopted:

2. That a Committee on Field Activities be made a standing Committee, and that its duties include those formerly delegated to the Committee on Health and Public Instruction.

#### Duties

3. That in addition to the duties mentioned in paragraph 2, it shall be the function of this Committee to collaborate with the Council as a body and with its members in the formulation and carrying out of programs in their respective districts. It shall be the special agency through which the State Medical Society and other agencies concerned with related activities may establish sustained working relations, formulate joint programs and promote interest and activity in lines calculated to increase the adequacy, efficiency, and equality of distribution of applied medical science throughout the State of Iowa.

#### Number of Members and Qualifications

4. The number of members shall be seven. With the exception of two mentioned in paragraph 5, the members of this Committee shall be members in good standing in the Iowa State Medical Society.

#### Manner of Selection

5.

(a) The President-elect shall be an ex-officio member from his election until his inauguration as President. The other six members shall be selected as follows:

(b) Two shall be nominated and elected by the Council. The other four are to be apportioned and selected as follows:

(c) One to be chosen by the Iowa State Board of Health.

(d) One by the Faculty of the Iowa State University Medical School. (Both these to be members in good standing of the Iowa State Medical Society.)

(e) One to be chosen by the Executive Committee of the Iowa Tuberculosis Association.

(f) One by the Executive Committee of the Iowa State Conference of Social Work. (The two last named may be chosen by their respective organizations for their fitness to represent the specifically declared purposes of the organization.)

#### Term

6. Except the President-elect, the members of this Committee shall be elected for two years. (Those elected by the Council to cast lots for the short term so that one of the two will be elected at each annual meeting after 1922.)

#### Powers Delegated—And Limitations as to Expenditure of Funds

7. The Committee on Field Activities shall be empowered to employ such help as it deems necessary within the limit of the aggregate appropriation approved by the Board of Trustees and House of Delegates of the State Society. To enter into such working agreements with associated agencies as it may deem wise and proper, to recruit volunteer speakers' bureau and to pay the actual expenses of such speakers, to defray also the actual expenses of members of the Committee that are incurred in performance of duties connected therewith subject to the same rules and restrictions that apply to the Board of Trustees. All bills for expenditure of the appropriation shall be subject to approval of the Board of Trustees of the Iowa State Medical Society after which, warrants for payment of same shall be made according to the provisions of the Iowa State Medical Society's by-laws. The Committee shall not incur obligations beyond the provisions of the appropriations placed at its disposal by the House of Delegates, but this shall not prohibit expenditure of funds that may be derived otherwise than through said appropriations.

#### Organization

8. The Committee shall, upon its creation under these provisions, proceed to organize after the usual manner. Elect a Chairman and Vice-Chairman. The Secretary of the State Medical Society shall be made Advisory Secretary of the Field Activities Committee.

#### Committee Rules

9. The Committee may make rules governing the conduct of its affairs provided such do not conflict with the Constitution and By-laws of the State Society. The Committee shall have power to appoint sub-committees and to invite the (non-voting) participation of persons as advisory members of the Committee and in event of absence or disability of the representative member from either the Iowa Tuberculosis Association or the State Conference of Social Work, the President of such organizations may act in his stead.

#### Resolution for Appropriation of Funds to Carry on the Field Activities

As part of the motion to adopt the foregoing recommendations, your Committee recommends that an appropriation of \$7,500 (seven thousand, five hundred dollars) be provided for use of the proposed standing Committee on Field Activities subject to conditions set forth in paragraph 7, relating to payment of bills;



and that the Field Activities Committee at the next annual meeting of the Iowa State Medical Society, report on a plan for financing the Field Activities.

Frank E. Sampson, Chairman,  
Donald Macrae, Jr.,  
Alanson M. Pond,  
Field Activities Committee.

### THE RESOLUTIONS

**Whereas** we recognize the importance of preventive medicine, and

**Whereas** we believe in a larger measure of participation on the part of the state and county medical societies in public health movements,

**Therefore** in order to fulfill in these respects both our desire and our recognized duty,

**Be It Resolved**, That it is the sense of this scientific section of the State Medical Society that a director of field activities should be employed either on full or part time.

That among his duties shall be:

1. To perfect the organization of county societies
2. To stimulate such societies to greater activity along public health lines.
3. To effect cooperation between such societies and other organizations in the community.
4. To cement the relationship between county medical societies and the State Society.
5. To establish better means of communication between the State Society and county societies.
6. To prepare proper publicity matter and to secure proper publicity along public health lines and matters of general policy and legislation; and, to act as agent for the legislative committee of the State Society in securing needed legislation on public health matters and in preventing the enactment of harmful measures.

**Be It Further Resolved**—That we hereby recommend to the House of Delegates that at its meeting on Friday morning, May 13, 1921, it authorize the incoming President to appoint a special committee having power to act in carrying out the above purposes including the selection of a suitable man either on full time or on part time and he to work under the direction of the Committee.

It was moved and seconded that the next meeting of the House of Delegates to be held Friday morning, May 12, be held in Room 322, Hotel Fort Des Moines.

Meeting adjourned.

### Third Meeting—Friday Morning, May 12

The House of Delegates met in Room 322 Hotel Fort Des Moines and was called to order by the President at 8:07 a. m.

Ten officers and thirty-nine delegates responded to the roll call.

A quorum being present, the House proceeded to the transaction of business.

The minutes of the first meeting were read, and upon motion approved.

The minutes of the second meeting were read, and upon motion approved.

### REPORT OF THE COMMITTEE ON NOMINATIONS

The report of the Nominating Committee being the first order of business, Dr. J. F. Herrick, Secretary of the Committee, presented the report.

The report follows:

For President-Elect—Dr. Frank M. Fuller, Keokuk; Dr. S. A. Spilman, Ottumwa; Dr. O. J. Fay, Des Moines.

For First Vice-President—Dr. George Kessel, Cresco.

For Second Vice-President—Dr. O. F. Parish, Grinnell.

For member Board of Trustees—Dr. H. C. Eschbach, Albia.

For Delegates to A. M. A.—Dr. L. W. Dean, Iowa City; Dr. Wm. L. Allen, Davenport.

For Alternate Delegates to A. M. A.—Dr. D. N. Loose, Maquoketa; Dr. B. L. Eiker, Leon.

For Medico-Legal Committee—Dr. H. B. Jennings, Council Bluffs.

For Constitution and By-laws Committee—Dr. V. L. Treynor, Council Bluffs; Dr. C. B. Taylor, Ottumwa; Dr. Tom B. Throckmorton, Des Moines.

For Public Policy and Legislation—Dr. W. W. Pearson, Des Moines; Dr. B. L. Eiker, Leon; Dr. D. J. Glomset, Des Moines.

For Publication Committee—Dr. D. S. Fairchild, Clinton; Dr. W. L. Bierring, Des Moines; Dr. C. P. Howard, Iowa City.

For Finance Committee—Dr. C. P. Frantz, Burlington; Dr. A. E. King, Blockton; Dr. E. C. McClure, Bussey.

For Medical Library Committee—Dr. D. S. Fairchild, Clinton; Dr. W. L. Bierring, Des Moines; Dr. O. J. Fay, Des Moines; Dr. Gershom H. Hill, Des Moines; Dr. George Royal, Des Moines.

For Councilor, Second District—Dr. David N. Loose, Maquoketa.

For Councilor, Ninth District—Dr. H. B. Jennings, Council Bluffs.

Dr. F. M. Fuller, asked that his name be withdrawn as he, being a member of the House of Delegates, was not eligible.

Dr. H. C. Eschbach, asked that his name be withdrawn as a candidate for the Board of Trustees.

Dr. Tom B. Throckmorton, Secretary, presented the resignation received from Dr. L. W. Dean, as Delegate to the A. M. A.

Motion was made that the House of Delegates take a recess of five minutes to allow the Nominating Committee to fill the vacancies in the list of officers and delegates. Seconded.

Motion was made by Dr. Conkling, seconded by Dr. Voldeng that the House proceed with the transaction of business. Dr. V. L. Treynor rose to a

point of order that the report of the Nominating Committee must be the first order of business.

The President sustained the point of order made by Dr. Treynor; and the motion before the House was put and carried.

The House reconvened and the report of the Nominating Committee on Vacancies was made as follows:

President-Elect—Dr. W. A. Rohlf, Waverly.

Member Board of Trustees—Dr. J. W. Cokenower, Des Moines.

Delegate to A. M. A.—Dr. Donald Macrae, Jr., Council Bluffs.

Medical Library Committee—Dr. C. E. Holloway, Des Moines.

It was moved and seconded that the report of the Nominating Committee be accepted.

Motion carried.

#### Election of Officers

The House proceeded to an election.

The President appointed Dr. W. B. Small, Waterloo and Dr. M. N. Voldeng, Woodward, to act as tellers.

The ballot was taken for President-Elect.

Forty-six ballots were cast. Dr. Oliver J. Fay, of Des Moines, having received the majority of the votes cast on the first ballot, was declared elected President-Elect, by President Pond.

Dr. Treynor moved that the election of Dr. Fay be made unanimous. Seconded and unanimously carried.

Dr. J. F. Herrick moved that, as there was but one candidate for the other offices, the Secretary be authorized to cast the vote of the House of Delegates for the remaining officers and committees. Seconded and carried.

The Secretary then declared the ballot so cast.

An invitation for the next annual session of the Iowa State Medical Society to be held in Ottumwa in 1923 was extended.

Motion was made and duly seconded that the invitation to meet in Ottumwa be accepted. The date to be May 9, 10, 11, 1923.

Motion carried.

Report was sent by the Chairman of the Legislative Committee, Dr. W. W. Pearson, Des Moines, that on account of there having been no session of the legislature the past year, there was nothing to report.

#### REPORT OF THE COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION

The report of the Committee on Health and Public Instruction was made by Dr. Jeannette F. Throckmorton, Chariton.

It was moved and seconded that the report be accepted. Carried.

The report follows:

During the past year as state lecturer for women, she has given over 500 lectures reaching 97,500 girls

and women in 137 cities and towns of the state, and requiring 394 speaking hours.

These lectures were given to high school girls, college women, women's clubs and women in industry and business. There is great demand for, and tremendous possibilities in this educational phase of public health, and thinking men and women are deeply interested in it. May it be stated as an index of this interest, that there are still over thirty towns on her waiting list, some of which want a week.

It is gratifying to recall that the Iowa State Medical Society sagaciously discerned the need of such work some ten years ago, and in those distant days formed this Committee on "Health and Public Instruction," on which it has been her pleasure to serve ever since. She thanks you for this privilege.

Respectfully submitted,

Jeannette F. Throckmorton.

No report from Committee on Eugenics.

#### REPORT OF COMMITTEE ON CONSTITUTION AND BY-LAWS

The report of the Committee on Constitution and By-laws was given by the Chairman, Dr. V. L. Treynor, Council Bluffs. The Committee recommend the adoption of the amendments.

The report follows:

Chapter 4. Section 11. Adding the words "through the Secretary" after the word present in the first line.

By adding to Chapter 8 of the By-laws new sections as follows: Section 11. "The Committee on Constitution and By-laws shall consist of three members. It shall be the duties of the committee to propose such amendments to the constitution and by-laws as is deemed wise and judicious, and to bring before the House of Delegates such amendments as it, or other members of the Society, may care to present for consideration."

Section 12. The Committee on Finance shall consist of three members, whose duty it shall be to audit the books of the Society and to make a report of its findings to the House of Delegates.

Chapter 6. Section 3. To read as follows: "The Treasurer shall give bond in such sum as shall be determined by the Board of Trustees."

Chapter 6. Section 3. To strike out the words, "the sum of \$20,000" (in line 1-2) and substitute the words, "such sum as shall be determined by the Board of Trustees," and adding to same section the following:

"The amount of the Treasurer's salary shall be fixed by the House of Delegates and shall be paid annually."

Chapter 8. Section 8. Be amended by striking out all words after the word Society in Line 5, Page 19 and substituting: "All bills for Medico-Legal Defense, after approval by the committee and the Board of Trustees shall be subject to warrants drawn in the prescribed manner."



Chapter 8. Section 9. Be repealed and the following substituted: "That a committee on Field Activities be made a standing committee and that its duties include those formerly delegated to the Health and Public Instruction Committee and such other duties as may be prescribed."

V. L. Treynor,  
Chairman.

On several motions, duly seconded and carried, each amendment was adopted; and on motion, duly seconded and carried, the report as a whole was adopted.

#### REPORT OF THE FINANCE COMMITTEE

The report of the Finance Committee was presented by Dr. E. C. McClure, Bussey, member of the Committee, who moved its acceptance.

On motion, duly seconded and carried, the report was adopted.

The report follows:

Your Committee on Finance has the honor to report to you the condition of your finances and to say that we have carefully checked over the books and statements of the Secretary and Treasurer in so far as they pertain to the financial affairs of the Society.

We find that the records have been carefully and systematically kept, showing vouchers, checks, bills, banking deposits, etc., which check up accurately, together with a showing of certain assets of the Society consisting of Liberty and school bonds.

We find that the balance sheet shows as follows:

Balance on hand April 30, 1921.....	\$32,225.44	
Received from Secretary.....	19,170.35	
School bonds (\$2000) purchased for .....	1,909.16	
Interest on \$20,000 Liberty Bonds .....	850.00	
Interest on School Bonds.....	50.00	
Interest on Deposits.....	219.23	
Total Receipts .....		\$54,424.18
Expended as per evidence.....	\$19,871.81	
Less check not yet cashed.....	550.50	19,321.31

#### Assets

Liberty Bonds .....	\$10,000.00
Liberty Bonds .....	8,600.00
Morris Bank acceptance paper	2,002.96
School bonds (\$2000).....	1,909.16
Time deposits People's Sav. Bk.	10,734.70
Checking account People's Sav- ings Bank .....	1,856.05

Total on hand Apr. 30, 1922	\$35,102.87
	<u>\$54,424.18</u>

Respectfully submitted,  
Chas. P. Frantz,  
Chairman.

#### REPORT OF THE FIELD ACTIVITIES COMMITTEE

The report of the Field Activities Committee presented at the Thursday meeting and laid upon the table, was read by the Chairman of the Committee, Dr. F. E. Sampson, Creston.

Dr. A. M. Pond, President, and member of the Committee, gave a summary of the work of this Committee in its endeavor to secure the very best information and guidance possible to perfect the recommendations incorporated in the Committee's report which is now before the House of Delegates.

The report and the remarks of the President were received with applause.

Dr. C. E. Boice, Washington, moved the adoption of the report, which was seconded by Dr. H. C. Eschbach, Albia.

After some discussion on various phases of the report, the motion was put and carried unanimously. (See page 288 for report.)

Dr. V. L. Treynor, Chairman of the Committee on Constitution and By-laws explained that as the Report and Resolution carried a change in the Constitution and By-laws relative to certain committees, and had been accepted, no further action was required.

Dr. V. L. Treynor moved that the delegates of the Iowa State Medical Society to the American Medical Association be instructed to make a report, at the next meeting of the House of Delegates, of the matters in which they participated. Seconded and carried.

Dr. F. E. Sampson moved that the Field Activities Committee now existing be continued in its function until the formation of the new committee and matters be taken over from the present committee. Seconded and carried.

#### NEW BUSINESS

Dr. Tom B. Throckmorton, Secretary, presented the following communication from the secretary of the Nebraska State Medical Society:

Omaha, Nebr., April 29, 1922.

Tom B. Throckmorton, M.D.,  
Iowa State Medical Society,  
Des Moines, Iowa.  
Dear Doctor:

At the meeting of the House of Delegates of the Nebraska State Medical Association, I was instructed to confer with you to get your opinion as to the advisability of a joint meeting of the Nebraska State Medical Association and the Iowa State Medical So-

ciety in 1924. Dr. Macrae of Council Bluffs and Dr. Overgaard of Omaha were the originators of this idea.

If you think it is at all practicable, may I ask you to bring it up to your House of Delegates at the coming meeting and get their action on it? It was suggested that this meeting be held in Omaha, as it is probably the most central point for both states. If necessary, your House of Delegates could meet in Council Bluffs, and the general sessions meet in Omaha.

Faternally yours,

R. B. Adams, Sec'y.,  
Nebraska State Med. Ass'n.

Dr. V. L. Treyner: "I have had considerable discussion with members of the State Medical Society of Nebraska relative to holding a joint meeting with Iowa and I have discouraged it as ours is largely a business organization, and it seems to me that it would not be at all feasible to hold a meeting of that character. We might hold our business sessions and then adjourn to meet for one day. We can accept their invitation to meet in this way."

It was moved and seconded that we accept the invitation to hold a joint meeting as outlined by Dr. Treyner. Motion carried.

Dr. T. B. Throckmorton presented the following amendment to the by-laws: that the President-elect shall be Chairman ex-officio of the House of Delegates, and moved its adoption.

Motion was made, duly seconded and carried that the amendment be referred to the Committee on Constitution and By-laws.

Upon motion, the House adjourned at 10:00 a. m.

Tom B. Throckmorton,  
Secretary.

## MEETING OF THE COUNCIL

A meeting of the Council of the Iowa State Medical Society followed the adjournment of the House of Delegates May 12, 1922. Dr. Paul E. Gardner, New Hampton, was reelected Chairman and Dr. A. G. Shellito, Independence, reelected Secretary.

Paul E. Gardner,  
Chairman.

## IOWA STATE MEDICAL SOCIETY OFFICERS AND COMMITTEES 1922-1923

President.....Charles J. Saunders, Fort Dodge  
President-Elect.....Oliver J. Fay, Des Moines  
First Vice-President.....George Kessel, Cresco  
Second Vice-President.....O. F. Parish, Grinnell  
Secretary.....Tom B. Throckmorton, Des Moines  
Treasurer.....Thos. F. Duhigg, Des Moines  
Editor.....David S. Fairchild, Sr., Clinton

### COUNCILORS

Term Expires  
First District—R. S. Reimers, Ft. Madison.....1925  
Second District—D. N. Loose, Maquoketa.....1927  
Third District—A. G. Shellito, Independence, Secretary.....1926

Fourth District—Paul E. Gardner, Chairman.....1924  
Fifth District—George E. Crawford, Cedar Rapids.....1923  
Sixth District—O. F. Parish, Grinnell.....1923  
Seventh District—Channing G. Smith, Granger.....1924  
Eighth District—Samuel Bailey, Mount Ayr.....1924  
Ninth District—H. B. Jennings, Council Bluffs.....1927  
Tenth District—W. W. Beam, Rolfe.....1926  
Eleventh District—G. C. Moorehead, Ida Grove.....1925

### TRUSTEES

J. W. Cokenower, Des Moines.....1925  
W. B. Small, Waterloo.....1924  
T. E. Powers, Clarinda.....1923

### DELEGATES TO A. M. A.

Donald Macrae, Jr., Council Bluffs.....1924  
W. L. Allen, Davenport.....1924  
J. C. Rockafellow, Des Moines.....1923

### ALTERNATE DELEGATES

D. N. Loose, Maquoketa.....1924  
B. L. Eiker, Leon.....1924  
M. N. Voldeng, Woodward.....1923

### COMMITTEES

#### Medico-Legal

D. S. Fairchild, Sr., Clinton.....1924  
Lewis Schooler, Des Moines.....1923  
H. B. Jennings, Council Bluffs.....1925

#### Scientific Work

Chas. J. Saunders.....Fort Dodge  
Tom B. Throckmorton.....Des Moines  
Thos. F. Duhigg.....Des Moines

#### Public Policy and Legislation

W. W. Pearson.....Des Moines  
B. L. Eiker.....Leon  
D. J. Glomset.....Des Moines  
Chas. J. Saunders.....Fort Dodge  
Tom B. Throckmorton.....Des Moines

#### Constitution and By-Laws

V. L. Treyner.....Council Bluffs  
C. B. Taylor.....Ottumwa  
Tom B. Throckmorton.....Des Moines

#### Publication

D. S. Fairchild, Sr.....Clinton  
W. L. Bierring.....Des Moines  
C. P. Howard.....Iowa City

#### Finance

C. P. Frantz.....Burlington  
A. E. King.....Blackton  
E. C. McClure.....Bussey

#### Arrangements

Chas. J. Saunders.....Fort Dodge  
Tom B. Throckmorton.....Des Moines  
Thos. F. Duhigg.....Des Moines  
J. F. Herrick.....Ottumwa  
C. B. Taylor.....Ottumwa

#### Medical Library

D. S. Fairchild, Sr.....Clinton  
W. L. Bierring.....Des Moines  
O. J. Fay.....Des Moines  
G. H. Hill.....Des Moines  
C. E. Holloway.....Des Moines

#### Field Activities Committee

Iowa State Med. Society.....President-Elect O. J. Fay, Des Moines  
Iowa State Medical Society.....B. L. Eiker, Leon  
Iowa State Medical Society.....W. L. Bierring, Des Moines  
Iowa State Board of Health.....R. P. Fagan, Des Moines  
Faculty State University Med. College.....N. G. Alcock, Iowa City  
State Conference of Social Work.....F. E. Sampson, Creston  
Iowa Tuberculosis Association.....T. F. Edmonds, Des Moines



## HOSPITAL STANDARDIZATION FROM THE VIEWPOINT OF THE HOSPITAL TRUSTEES

I come to speak to you not from the standpoint of a trustee of a hospital but from the standpoint of the executive secretary of the Board of Hospitals and Homes of the Methodist Church which during the past year has had for its distinct service the program of standardizing its hospitals, making a survey of all the institutions within the bounds of the board and seeking to find out the exact facts in relation to all of the work in our various institutions, especially of the church with which I am affiliated.

Up until a year and one-half ago, the hospitals operating under the Methodist Episcopal Church had no connection whatever one with the other. We had no board. Since that time a board has been organized, and the very first question that came before us for consideration was: "What standard shall we adopt and put into effect in regard to our hospital work?" There was only one answer to that—the minimum standard adopted by the American College of Surgeons. That is the best there is at the present time. Whenever we do see a better plan than that adopted by the American College of Surgeons, we shall add that to our already adopted program.

### Boards of Trustees

In making a survey of our hospitals during the past year, sixty-five operating institutions, we have to begin back with the board of trustees, and we find some very interesting facts in our survey. Now, there are four kinds of boards of trustees, inasmuch as there are state institutions, municipal institutions, private institutions, memorial in character more or less, and also institutions operating within the bounds of some one of the denominations. So we have practically four kinds of boards of trustees. The state hospitals deal with their trustees through their state-appointed officers and trustees; the municipal hospitals, through officers and trustees appointed by the municipality; and the private hospitals are largely run by physicians with particular objectives in mind, memorial hospitals being private hospitals which have been built as memorials for families or for a group of people. We have different objectives in each group.

Now I will take up our own church hospitals. For instance, in an organized society, we have a body of men, the laity and missionary people, who want a hospital and want the church to get back of it. The important objective of any of these hospitals is the same, that is, that the patients shall have the very best kind of service rendered to them, from the diagnostic standpoint, the standpoint of treatment, or whatever it may be.

When we come to the standardization program, one of the first things that we find is that we have to standardize a lot of boards of trustees. There are as many and varied kinds of ideas among boards of trustees as to what is the standardization program

of the American College of Surgeons as there are among some other classes of folks who are non-medical practitioners. And we have had some very interesting sessions with men who for years have been president and secretary and treasurer of boards which have had very little to do with the hospital program. We have had this question asked many times: "Who are you? What does this mean anyway?" Most of them think it means expenditures of money, and it does. But without expenditures of money, we can never get to any place in the world. And I have been very frank to say to these members of our trustees: "You have run the institution on a cheap plan and you will have a cheap result." It means that you will have to expend more money and the best results cannot be secured without putting into it an adequate amount of money. And the boards of trustees of many of our institutions are very unconscious of the fact that none of our institutions can turn out the best product unless they provide conditions which are favorable.

### Co-operation of Trustees and Staff

So we face this problem. Many of our trustees have never been in close contact with the staff. They do not know what the staff wants to do. They do not know what a case record looks like. It is absolutely unreadable to them. And so you must educate the board of trustees to know what a really readable chart is and what kind of an analysis should be made in order that patients should have the very best means of diagnosis and the very best service rendered them.

### Financial Interests

Another feature directly concerns the board of trustees. They are tremendously interested in the financial interests of the hospital. I know one instance where a board of trustees had notes at the bank amounting to fifty-five or sixty thousand dollars, they were running behind in their current expenses, they did not know just how to meet them, or where they were going to get the money to buy all the equipment that the hospital was calling for. The proposition came up of a new staff organization in the hospital, which would entail the expenditure of an additional amount of money. Could they afford to add additional expense to the already great burdens in order to establish a standardized staff? And in organizing that standard staff, the plan was to determine and specialize the entire staff development. And the president of the board of trustees said frankly, after he had been in close contact with the chief of staff: "We cannot afford not to put in the additional equipment, to put in all the standard requirements, regardless of the extra expenditure of money that it does entail!"

Another instance: here is a hospital with a board of trustees which during the past years has not been making any reports to anybody. They have not been responsible to anybody. This board of trustees has been a unit in itself as a hospital, not making a

report to any city or state. But somebody else comes along—the American College of Surgeons—and says to the surgeons of the staff: “You do not meet the requirements.” A man from the outside steps in and says: “Can we see your hospital records? Can we examine your laboratories and equipment and see what you are doing?” If the surgeons and physicians in your community are to be held responsible for the results of their services in the institution, then the responsibility for that must come back to the board of trustees and also to the people outside who furnish the money to keep the institution going.

#### Laymen Pleased with Program

We started in to adopt the whole program and the result has been that the boards of trustees are doing their duty toward their institutions and toward the community; whereas a year and a half ago they were letting the staff attend to responsibilities; today they have a larger view of their problem, and a more intelligent appreciation of the work that the institution is trying to do for the city, the state, and the church.

There is one more word I want to bring to you. I believe that the body of laymen throughout the entire country are tremendously pleased with this great program. Why should they not be? As business men asking for the best results, they could do no better than adopt the program of the American College of Surgeons. A man can only sell something if he has it to sell. He cannot sell what he does not have in the shop. So the doctor who says, “I can do certain things,” but cannot produce the goods does not last very long. We have had some non-medical practitioners who have said: “We will close your doors unless we can bring in our patients, regardless of your rules and regulations.” The state can hold the board of trustees responsible to the state. They have not gone that far yet. But the state has a responsibility as to what the board of trustees does, and the responsibility for every case that comes into the hospital comes back to the trustees in the end. If that is so, then the other truth is self-evident that no board of trustees can allow practitioners to come into the hospital who cannot give proper diagnosis or proper treatment or do proper service. They must meet the requirements. And I am sure I speak this morning for a very large number of people and a large number of institutions, and I am very glad, indeed, that the doctors of the American College of Surgeons have made up this program during the past three or four years and have established a standard. Dr. Martin has been the life saver for hundreds of physicians.

In closing, so far as our own institutions are concerned, we intend to stand by this program and see that it is put into effect.—Newton E. Davis, D.D., Chicago, Executive-Secretary, Conference Board of Hospitals and Homes of the Methodist Church.

#### MEDICAL NEWS NOTES

At a meeting held April 25, 1922, the Polk County Medical Society decided to hold a three-day clinic some time in October, 1922. By co-operation among members of the society and the five excellent hospitals here it is believed that the undertaking will be a great success.

The territory adjacent to Des Moines includes a population of approximately a half million, from which an abundance of clinical material is available.

The five excellently equipped hospitals will furnish the facilities for demonstrating the cases. There is an abundance of professional skill, making all the requisites for a successful clinic. With the organizing skill to coordinate all these in harmonious action the clinic in October will be one of the big events of the state in the medical field.

The following committees were appointed to arrange the details:

Program Committee: Dr. A. P. Stoner, president Polk County Medical Society; Dr. James Taggart Priestley, president of the staff, Mercy Hospital; Dr. A. C. Page, president of the staff, Methodist Hospital; Dr. W. S. Conkling, president of the staff, Lutheran Hospital; Dr. W. L. Bierring, president of the staff, Samaritan Hospital; Dr. E. G. Linn, president of the staff, Congregational Hospital.

Arrangements Committee: Doctors F. R. Holbrook, M. L. Turner and Ralph H. Parker.

Publicity Committee: Doctors Thomas F. Duhigg, W. E. Sanders and D. J. Glomset.

At a meeting May 13th the various committees appointed to arrange for the clinics to be held in Des Moines in October, set the definite dates of October 17, 18, 19, 1922.

These clinics will be held at the following hospitals; Mercy Hospital, Methodist Hospital, Congregational Hospital, Lutheran Hospital, and Samaritan Hospital. They will be conducted by members of the profession and of the Polk County Medical Society. The headquarters for the meeting will be the Hotel Fort Des Moines. Social entertainment will be provided at the evening sessions.

At least two out of town physicians of national repute will be on the program.

The clinics will be held simultaneously at each hospital between the hours of 8 to 5 each day. They will embrace the following departments; general surgery, internal medicine, diseases of the eye, diseases of the ear, nose and throat, nervous and mental diseases, x-ray, genito-urinary, dermatology, gynecology, bone surgery, gastrointestinal diseases, diseases of the chest, orthopedic-surgery, the general subject of therapeutics, pediatrics, laboratory demonstrations and diagnostic methods.

No effort will be spared to make the clinics the best possible. The program will contain material of interest to those engaged in every department of the practice of medicine, whether specialists or general practitioners. We hope that every physician in the



state will mark the dates October 17, 18, 19, 1922, and arrange his work to make attendance possible during the three days. This will prove beneficial to every doctor who attends. Every effort will be made to make the clinics instructive, to make your quarters comfortable and your spare time enjoyable.

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Dr. J. B. Blything, for the past two years city physician, Davenport, was reappointed by the board of health. The appointment will be confirmed at the meeting of the city council.

Dr. Blything was appointed to the position of city physician by the Barewald administration two years ago.

The board of health led by Mayor Mueller, declared war on unclean and unsanitary garbage cans.

The board decided to appoint an assistant to the health officer whose duty will be to see that the garbage laws are not violated. The appointment of the assistant will be made later.

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The city papers, as well as their rural contemporaries, get things wrong occasionally. Recently the Des Moines Register announced that the next meeting of the State Medical Society would be held here. In fact it is to be held somewhere else, but Doctor Fellows suggests that the mistake in the announcement ought to put Algona wise to the situation that exists here when it comes to entertaining large conventions. We have no place to feed and sleep a thousand delegates—unless we send them out to the Country Club and let them make their beds under the stars!—Algona Advance.

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Plans for the organization of four nursing groups to form a part of the disaster relief unit of the Polk County Red Cross were formulated at a meeting held May 15 in Hotel Savery.

T. J. Edmonds, chairman of the unit of the Polk County Chapter, talked on "Disaster Relief."

Red Cross nurses are asked to read carefully and decide upon which of the following units they can best serve. In order that approximately the same number of nurses may be in each group, which is composed of ten, one may indicate another group in which they might serve if the one they choose has too many enrollments. Nurses are asked to fill out slips and mail to the chairman, Anna Drake, 518 Century building, Des Moines, Iowa.

The following units are offered:

Unit 1. Emergency unit. Might serve for one day or parts of several days in Des Moines in a disaster where first aid is needed. Might include married nurses and those holding executive positions such as superintendent of hospital or training school who might leave their work for one day.

Unit 2. For temporary work covering a few days. These might be public health nurses or those whose associations might loan them to the Red Cross for a few days without disrupting their regular work.

Unit 3. For continued duty covering a week or

more (probably on pay). This might cover a serious disaster in Des Moines or in the state, or might mean responding to a call outside the state.

Unit 4. Reserves. For substitutes or in cases of extreme need. This group would include nurses who are tied down by home cares or who are in positions not easy to leave, but who would be willing to make arrangements to serve in case of extreme need.

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The proposal of the Marshall County Medical Society to assume charge of medical care of the county poor and of patients who now are sent to the intern hospital for treatment, with the object of reducing the cost to the county, came before the county board of supervisors, when Supervisor J. L. Wylie offered a resolution providing for the acceptance of the proposal. The resolution, if passed, would abolish the offices of matron and physician of the intern hospital.

The resolution, as presented, offered no stipulated sum as payment to the medical society for its work, leaving the question of remuneration to be determined later by the board and the society. The resolution was presented at a meeting of the board in committee and will lay over until a regular session.

The resolution, as offered by Wylie, was as follows:

"That the medical association of Marshall county be employed to furnish treatment and medical aid to the poor of Marshall county, not including the county home, at a yearly compensation to be agreed upon between the medical association of Marshall county and Marshall county (through its board of supervisors), said compensation to be paid monthly, and further that as soon as said employment is accepted by the medical association of Marshall county, the operation of the county intern hospital be discontinued and the employment of the matron and physician be dispensed with."

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Dr. J. F. Herrick, prominent local surgeon and physician and a major with Hospital Unit R in France during the World War, is the president of the newly organized Military Surgeons Club of Iowa.

This club, just formed at Des Moines, approved plans for the building of a memorial hospital at Camp Dodge in honor of the doctors, nurses and enlisted men of the medical service who lost their lives during the war. Dr. C. B. Taylor of Ottumwa is a member of the committee of three in charge of the hospital.

Plans call for the erection of a \$40,000 structure which will be started as soon as the money is available. Funds probably will be raised by popular subscription. The hospital would be used during camp periods of national guards and by the general public in time of disaster or epidemic.

This matter was brought before the members of the Wapello County Medical Association by Capt. H. W. Sellers and other national guard medical officers a few months ago and endorsed. Similar ac-

tion has been taken in all parts of the state. The committee in charge has Dr. W. S. Conkling of Des Moines as chairman. Drs. Taylor of Ottumwa and Earl B. Bush of Ames, other members. Dr. Conkling is the vice-president of this new Military Surgeons' Club of Iowa, of which Dr. Herrick is the head and Dr. A. L. Downing of Des Moines is the secretary. Members of the board of trustees are Drs. A. S. Price of Des Moines, A. H. McCreight of Ft. Dodge and D. L. Glomset of Des Moines.

Dear Doctor Fairchild:

I thought perhaps it might interest you and your readers to know that on Thursday evening at the last state medical meeting, there was a complimentary dinner given Dr. L. W. Dean by his former interns. There were twenty-one of the men present.

A fine token was presented Dr. Dean, in the form of a Hamilton watch. This was the first gathering of the Dean men and they were organized electing Dr. G. H. Harkness, Davenport, president and Dr. C. H. Lauder, Grinnell, secretary.

Edwin Cobb.

## SOCIETY PROCEEDINGS

### Clinton County Medical Society

The May meeting of the Clinton County Medical Society was held on the evening of the 18th, at the Lafayette Hotel, Clinton, Iowa, with a large attendance of members present.

After a dinner, served at six-thirty, a short business session was held, followed by an address by Dr. A. W. Blunt of Clinton, on Some Problems in Pregnancy and the Puerperium.

The subject was presented in a most able manner, and the discussion following was participated in by all members present.

The meeting was undoubtedly one of the most instructive and valuable ever held by the local society.

M. S. Jordan, Sec'y.

### Fremont County Medical Society

The Fremont County Medical Society was entertained June 22 by Dr. William Kerr of Randolph, the occasion being the twentieth anniversary of the doctor's practice at Randolph. A seven o'clock dinner was served to eighteen physicians including guests from Council Bluffs. Scientific papers as follows were presented: Donald Macrae, Jr., Diagnosis of Gastric Ulcer; V. L. Treynor, Manifestations of Pain in Some Forms of Syphilis; A. A. Johnson, Importance of Carefulness in Making Diagnoses; C. A. Hill, Some Observations; all of Council Bluffs. Dr. H. J. Piper of Randolph for many years president of the Society, also addressed the doctors. A unanimous expression of appreciation was tendered Dr. Kerr for his hospitality. The next meeting of the society will be held at Tabor in September.

A. E. W.

### Jackson County Medical Society

Spring meeting held in Maquoketa, May 31, 1922. Meeting called to order by President R. H. Lott. In addition to members, there were in attendance Dr. Sharp from the Dentists' Club, and Nurse Wendell, secretary of the Jackson County Public Health Association. Motion carried to hold a joint picnic meeting on June 22 with the Jackson County Public Health Association and Dentists' Club.

Recognizing the good work the Red Cross Nurse has done during the past year, a committee was appointed to petition the board of supervisors to appropriate funds and employ a county nurse for the coming school year.

Dr. Frank gave clinical report of case of empyema with x-ray demonstration. Also two cases of osteosarcoma with x-ray plates. Dr. E. M. Medlar, of the State University gave a paper, with lantern slides on Relation of Chronic Mastitis to Carcinoma of Breast. Sections from same breast showed degeneration of tissue from mastitis to malignancy.

Drs. Griffin and Lowder were appointed a committee to outline plan under which the society can bid for contract with the board of supervisors to render medical aid to the indigent poor of Jackson county during next year. Said committee to report at the fall meeting.

D. N. Loose, Sec'y.

### Lee County Medical Society

A semi-annual meeting of the Lee County Medical Society was held in Keokuk, May 4. Before a dinner in the private dining room at the Y. W. C. A., attended by about twenty-five doctors, the following program was given:

Paper on Penetrating Wounds of Eye, with History of Cases—Dr. F. Chapman.

Paper on Rectal Examinations—Dr. F. W. Noble.

Industrial Surgery—Dr. J. E. Chalmers.

Treatise on Gastric Ulcer—Dr. William Hogle.

An orchestra furnished music during the dinner and six nurses and two sisters were present during the program. The following out of town doctors attended the dinner: Drs. Wahrer, Chalmers, Rea, Kassen, Newlon, Newton, Travers, Bess, Grimwood and Noble from Fort Madison, and Dr. Saar from Donnellson.

The next meeting will be held in Fort Madison, December 28, of this year.

Drs. Fuller, Clark and Armentrout were in charge of arrangements, and Dr. Travers of Fort Madison, president; Dr. Lapsley, vice-president, and Dr. Rankin, secretary.

### Linn County Medical Society

At the May 18 meeting of the Linn County Medical Society, the following officers were elected: President, Dr. H. M. Ivins; vice-president, Dr. F. G. Murray; secretary, Dr. A. R. Zuercher; treasurer, Dr. W. J. Neuzil; all of Cedar Rapids.

At this meeting a banquet was given in honor of



Dr. Edwin Burd of Lisbon, celebrating his practice of fifty years in the medical profession—sixty doctors attended to do him honor. Following the banquet and business session Dr. Howard L. Beyé of the State University presented a paper: "Three Cases, Illustrating the Difficulty in Differential Diagnosis between Sarcoma of the Bone and Infection of Bone. Dr. B. P. Phemister of the State University, gave a paper on "Bone Transplantation in the Treatment of Ununited Fractures. A. R. Z.

#### **Mahaska Medical Association**

Goitre is a medical disease and must be treated as such, Dr. Granville Ryan of Des Moines, specialist in internal medicines, told members of the Mahaska Medical Association at their monthly luncheon at the Chamber of Commerce.

Surgical treatment for goitre should always be followed by medical attention, Dr. Ryan declared in the talk on the subject of "Medical Treatment of Goitre." His talk was largely technical, based on studies here and abroad and years of experience, and was a scholarly consideration of the topic.

Doctors, their wives, and a few invited guests made up the party which dined on roast chicken and all the trimmings, served at the local club rooms.

Dr. F. J. Jarvis is president of the county organization. Dr. F. A. Gillett is secretary.

The luncheon was the first of a series to be held throughout the year and to be addressed by eminent medical men of the country. Specialists in all lines of the profession are to be brought here to address the association, and possibly to conduct clinics.

#### **State Society of Iowa Medical Women**

The State Society of Iowa Medical Women had a most worth-while meeting May 9 in the Chamber of Commerce library. About thirty members were present and discussed some of the most important aspects of preventive medicine, in addition to the clinical papers. The morning session was most profitably spent in hearing about the greater benefit to be gained from the examination of the pre-school age child than from the examination of high school boys and girls. The papers of Dr. Josephine Rust and Dr. Marian O'Harrow covered this field of work in a very comprehensive manner.

At the afternoon session Dr. Rose Butterfield discussed some of the less used anesthetics, and Dr. Mary Tinley of Council Bluffs gave a very concise but vivid description of the result of toxemia in pregnancy and some suggestions for its alleviation.

The paper by Dr. Pauline Hanson of Marshalltown on Birth Control suggested the various phases of this subject and brought forth much discussion. The closing paper by Dr. Jennie Ghrist showed the great contribution that the profession has made toward the prevention of disease in the past few years. Perhaps the pleasantest part of the day's program was the anniversary dinner at the Savery Hotel with letters from five charter members of the society, Dr.

Edith Fosnes, Dr. Mary Breen, Dr. Evalene Peo, Dr. Sara Kinne, and Dr. Kate Mason Hogle.

Many reminiscences of the pioneer days were told and the grave doubts of these organizers as to the permanence of this venture were recalled.

Toasts to the past, present and future of our State Society were given by Dr. Lena Beach of Rockwell City and Dr. Jeannette Throckmorton of Des Moines.

The only charter member present at the meeting was Dr. Josephine Wetmore Rust of Mason City, who presided at the dinner in a most charming manner. She read the names of the other six charter members, only one of whom is thought to be still living. They are Rebecca Hanna, Azuba King, Mary Ardery, Rebecca Wright, Jessie V. Smith and Margaret Colby.

At the business meeting it was voted to send a delegate to the International Medical Association at Geneva, Switzerland, if any one could attend the meeting. Dr. Jennie Ghrist was appointed as the representative of the society on the state committee on women in industry.

The following officers were elected for the coming year: President, Eppie McCrea, Eddyville; vice-president, Jane Wright, Clear Lake; treasurer, Helen Johnston, Des Moines; secretary, Julia F. Hill, Grinnell. Julia F. Hill, Sec'y.

#### **Hahnemann Medical Society Meeting**

The annual meeting of the Hahnemann Medical Association of Iowa was held in Des Moines with headquarters at the Hotel Savery.

The morning session was held at the Iowa Congregational Hospital where surgical and medical clinics were held. Doctors E. A. Shaw, W. H. McCartney, and G. A. Huntoon, of Des Moines, had charge of the surgical clinic, while Doctors A. M. Linn, H. L. Rowat, Erwin Schenk, and C. J. Loizeaux had charge of the medical clinic. Miss Ada Hershey and Doctors Alice H. Hatch and Jennie M. Coleman were also on the program.

Dr. Fred Morgan, Clinton, gave the president's address.

Papers were read by Doctors Mel R. Waggoner of Cedar Rapids, A. B. Clapp of Muscatine, E. E. Richardson of Webster City, W. W. Bailey of Davenport, H. H. Humphrey of Indianola, and T. L. Hazard of Iowa City.

Officers for the ensuing year chosen at the final meeting were: Dr. M. A. Royal of Des Moines, president; Dr. J. F. Battin, Marshalltown, first vice-president; Dr. Alice H. Hatch of Des Moines, second vice-president; Dr. J. Elso Neuland of Center Point, secretary; Dr. A. B. Clapp of Muscatine, treasurer; Dr. George Royal of Des Moines, editor of the Homeopathic Journal of Iowa. The legislative committee was re-elected. It includes Doctors George Royal, A. P. Hanchett, A. M. Linn, S. W. Staads and C. H. Cogswell. The 1923 meeting will be held in Des Moines.

### Iowa Clinical Society

The Iowa Clinical Society met Tuesday, May 9 at Hotel Fort Des Moines.

The clinical society which meets three times a year, is composed of fifty members, all specialists in internal medicine.

A clinic was held at Mercy Hospital, followed by a luncheon at noon at Hotel Fort Des Moines, where a business meeting was held in the afternoon.

The new officers are Dr. Frank A. Ely, Des Moines, president; Dr. C. A. Waterbury, Waterloo, vice-president, and Dr. Russell Doolittle, Des Moines, secretary-treasurer.

### Sioux City Ear and Eye Specialists

Sioux City ear and eye specialists held their closing meeting for the past year at the West Hotel and elected officers for 1922-23. Dr. L. R. Tripp was chosen president and Dr. F. W. Sallander secretary. Dr. F. H. Roost, the retiring president, presided at the meeting following dinner.

Dr. T. R. Gittins described the proceedings of sessions of medical societies in the East that he recently attended.

The Sioux City specialists will hold no more meetings until fall.

### Important Resolutions Adopted by the Radiological Society of North America at Its Annual Meeting, Chicago, 1920

Whereas: The question of the ownership of the roentgenogram has never been definitely settled; and,

Whereas: Other points regarding the ethics and conduct of radiologists relative to the disposal of their roentgenograms, records and reports of their findings, have never been clearly outlined therefore, be it

Resolved, by the Radiological Society of North America, that it is the sense and judgment of this society, that all roentgenograms, plates, films, negatives, photographs, tracings or other records of examinations are hereby declared to be the exclusive property of the radiologist who made them (or the laboratory where they were made); and be it further

Resolved, That the ethics of this society shall be in full harmony with the Principles of Medical Ethics of the American Medical Association, with the following additions, to-wit:

The radiologist is hereby declared to be a consultant in all cases where he is called upon to examine patients.

The radiologist shall not make known to patients, their relatives, friends or guardians, any of his findings or conclusions, nor shall he deliver to them any of the plates, negatives, films or prints, unless expressly requested to do so by the physician or surgeon who referred the patient for examination, or is in charge of the case. It shall be considered unethical to advertise by circularizing in the medical or lay press with price lists or fee tables, descriptions

or illustrations of office apparatus or facilities, or to advertise by displaying signs stating the medical specialty; or in the public press, telephone directories, or city, state or national directories, which are published for general use.

It shall be considered unethical for any one to claim superiority in diagnosis or treatment, due to some secret process, method or apparatus held to be known only by the claimant.

Colorado Medicine, December, 1921.

### HOSPITAL NOTES

Ten nurses received their diplomas of graduation from the Lutheran Hospital, Hampton, at the commencement exercises held at the nurses' home on South Reeve street Wednesday evening, May 3.

Four of Estherville's doctors and surgeons have joined hands in renting the Birney Hospital in this city and will assume control of the same on June 1. The four are Dr. Bachman, Dr. Morton, Dr. Wilson and Dr. Bradley. Dr. Birney will also continue to use the hospital for his cases, but will move his office from the hospital to the old office rooms over the Estherville Drug Store.

The hospital, under the new management will be renamed and made an institution in which all doctors of this part of the state can work. Improvements will be made where necessary and it will be one of the most complete and best equipped hospitals in northwest Iowa. The character of the men interested in the new venture is such that it will be a popular institution. Each of the men has been practicing in Estherville for years, are well known to the people of this community and the new combination will command the respect of all. Patients will be taken to the hospital by these four men from now on, although active control of the institution will not be taken over until June 1.—Estherville Democrat.

The new east wing of Jennie Edmundson Memorial Hospital, costing in the neighborhood of \$200,000, was formally dedicated with impressive ceremonies on the plaza in front of the main building Sunday afternoon, May 14, with W. R. Orchard, editor of The Nonpareil, as principal speaker.

The new hospital wing of four floors and an observatory attic with a doctors' clinic room overlooking the surgical laboratory on the floor below, is the latest in modern hospital construction and will provide the most modern conveniences for hospital patients in Council Bluffs and vicinity.

With the enlarged heating plant and supplementary ice plant as added features to the improvement of the hospital the total cost will at least reach \$250,000, according to figures of Mrs. Emma L. Louie, business manager of the institution.

The dedication ceremonies were opened with the invocation by the Rev. Wilford Ernst Mann of St. Paul's Episcopal Church. In his introductory talk



Dr. Donald Macrae, member of the hospital staff and leader of Mobile Hospital No. 1 in France, sought to impress his audience with the value of a hospital to a community.

Rapid progress is being made in the erection of Allen Memorial Hospital in Allen Heights on Logan avenue and the building will be under roof not later than October 1, according to James Register, senior member of Register & Buxton, contractors.

The Lutheran General Hospital of Sioux City, has been reorganized and a new staff appointed consisting of Drs. Townsend, Nervig and Henkin, in surgery; Dr. Bellaire, radiology; Dr. Brandt and Dr. Franchere, eye, ear, nose and throat; Dr. Vangsness and Runyon, internal medicine; Dr. Harold Brown, pediatrics; Dr. Latchem, urology; Dr. Victor Brown, skin and venereal; Dr. O'Donaghue, orthopedics. The hospital has just completed a new \$120,000 addition and is being standardized.

#### PERSONAL MENTION

Dr. W. Fordyce of Fairfield, Iowa, made a week-end visit with his daughter, Mrs. J. A. Roth. The doctor is a remarkable man. He has practiced medicine in Jefferson county for fifty years, and in recognition of this fact the county medical society recently gave a banquet in his honor. Nor has he the slightest intention of "retiring." He is just as active now as he ever was and has a larger practice than ever. He drives an automobile and goes over all kinds of roads to see his patients and answers calls at any hour, day or night. He is of rugged physique and in the best of health and is a fine advertisement for himself.—Rock Rapids Review.

Dr. L. K. Fenlon of Clinton was a guest of Mr. and Mrs. J. E. Wichman recently. He and Mrs. Fenlon left for their home by way of Iowa City, where they expected to make a short stop.

Dr. George S. Waterhouse, for many years a physician and surgeon at Charter Oak, but now located at Mapleton, Iowa, suffered a paralytic stroke on Friday evening, April 14, from which he is slowly recovering from reports received at this office.

Dr. R. U. Chapman, age eighty-five, of Des Moines, who is one of the oldest practicing physicians in Iowa, took an active interest in the sessions of the Iowa Medical Society in session at the Hotel Fort Des Moines. He began his practice of medicine more than half a century ago.

Dr. Rodney P. Fagan, secretary of the state board of health, left for Washington, May 16, 1922, to attend a conference of state and provincial health authorities with the United States surgeon general. Subjects considered at this conference: inter-state quarantine regulations, rural health work, child hygiene and provisions of the Sheppard-Towner law, advisability of state-wide application of Schick's test and toxin-antitoxin for the immunization of diph-

theria, and the eradication of rabies by vaccination of dogs. The conference also took up the reports of committees appointed at the previous conference. The American Water Works Association of the United States held its annual meeting in Washington on the four days given over to the health conference, and the delegates discussed matters of importance to Iowans, including the water supply for railroad trains and precautions for preserving the purity of the supply.

Dr. M. B. Dunning, who for a number of years practiced medicine here is now located in the government hospital at Denver. He holds the rank of captain in the U. S. Army Medical Corps, and has been stationed at various points in the United States. He recently attended a government medical school for special instruction at Washington and from there was assigned to duty at the Fitzsimmons General Hospital at Denver.

Dr. James T. Priestley has returned to his office with the use of a cane. He is recovering from his injuries in an automobile accident nicely and expects to be back to his office and practice in a few days.

#### OBITUARY

Dr. Edmund R. Jenkins, pioneer Washington physician, who recently gave \$15,000 to buy a site for the Y. M. C. A. building here, died May 22 at eight o'clock a. m. at his home. For the last two months he had been seriously ill and death today came as a relief from great suffering.

Always a man who had the best interests of the community at heart. Dr. Jenkins in the closing days of his life rendered the town of Washington a service which will cause his name to be honored here for many generations. His gift for a Y. M. C. A. site enabled the community to realize on James H. Young's bequest for the "Y" building. It was the crowning act of a life spent in the service of his fellow men.

Dr. Jenkins was born at Corfu, New York, but lived the greater part of his life in Iowa. He was graduated from the Keokuk Medical College in 1874 and practiced his profession at West Chester for eleven years, coming to Washington in 1885. He has lived here ever since. On May 9, 1876, he was married to Agnes C. Fletcher, who survives him. They had one daughter, Miss Ada, who died in 1904.

In addition to his course at Keokuk, Dr. Jenkins was graduated from Bellevue Medical College in New York and also took a post-graduate course at that school. He was one of the leading men in his profession in this part of Iowa. His sympathetic disposition and his skill as a physician made him one of the best loved men in this whole community, and he numbered his friends by the hundreds. The sympathy of the community has gone out to him in his long weeks of suffering.

The entire community was shocked and deeply grieved to hear of the very sudden death of Dr. John H. Stanton, at his late home in Chariton, at midnight, Thursday, May 25, 1922, at the age of sixty years, one month and one day, from cerebral hemorrhage.

Dr. Stanton was born at Spearsville, Brown county, Indiana, April 24, 1862. When but an infant he came to Lucas county, Iowa, with his parents, the late Dr. and Mrs. James E. Stanton. He grew to manhood in Chariton, received his medical education as a physician and surgeon at Rush Medical College, in Chicago, graduating in 1892, and practiced a short



DR. JOHN H. STANTON

time in Nebraska, but soon returned to Chariton, where he has been engaged in a wide and successful practice of medicine for the past thirty years.

On June 30, 1894, he was united in marriage to Miss Gertrude Aughey the daughter of the late Rev. and Mrs. John H. Aughey, who was for a number of years the pastor of the local Presbyterian church. To this union were born four daughters, all of whom with their mother survive. They are Mrs. Lester S. Combs of Chariton, and Jessie, Elizabeth and Martha at home. In addition to the immediate family, he is survived by two sisters—Mrs. Alice Lockwood, Mrs. Sam Boyles and one brother, Dr. T. P. Stanton, all of Chariton.

Dr. Stanton was a man of strong convictions and firmness of character, and as a consequence he had a host of firm friends. His long residence in Chariton gave him a wide range of acquaintance and by virtue of his profession he was brought into close fellowship with multitudes of people as through the years of faithful, untiring ministry.

Dr. O. G. Winters of Des Moines, medical director of the Yeomen, died Sunday, June 4, at the home of his daughter, Mrs. John N. Schaeffer, 1240 Thirty-second street.

Doctor Winters, who was an authority on insurance matters, was a thirty-second degree Mason, Knight Templar, Shriner, Yeoman and Woodman.

Surviving are his widow, his daughter and a son, O. G. Winters, Jr., all of Des Moines, and a sister, Mrs. Kate Goodwin of Salt Lake City.

Dr. Winters was born December 2, 1858, at La Crosse, Wisconsin. He was a graduate of Bellevue Hospital College, New York. He practiced medicine in La Crosse for a number of years.

He was appointed medical director of the Yeomen in 1905 and has lived in Des Moines continuously since that time.

In La Crosse he served as a member of the city council, school board and city physician.

Dr. Charles D. Burke, forty-five, prominent Iowa physician was found dead in his office at Atlantic, June 19, from a stroke of paralysis.

Dr. Burke attained prominence in medical circles several years ago by his discovery of reflex symptoms of typhoid fever.

He was district examiner of the disabled veterans, and a member of the state pension board.

He leaves a wife and son, and several sisters now in a Des Moines convent.

## BOOK REVIEWS

### PAPERS FROM THE MAYO FOUNDATION

For Medical Education and Research and the Graduate School of Medicine of the University of Minnesota, Covering the Period of 1915-1920. Octavo Volume of 695 Pages with 203 Illustrations. W. B. Saunders Company, Philadelphia and London, 1921. Cloth \$10.00 Net.

The character of the book compels us to refer somewhat freely to the preface.

"The first obligation of a true university, that makes it a university and not an aggregation of colleges, is to stimulate research, to attack unsolved problems, to train its best students to ask and to answer questions. The second obligation is to make available the results of these investigations, is the answers to these questions."

Proceeding from this point of view, we come first to the morphology of the digestive and respiratory tracts. Hunger in the infant, gastric acidity from the experimental point of view and gastric acidity following gastroenterostomy, cancer of the stomach, ulcers of the gastrointestinal tract, and a study of the arteries of the stomach and duodenum.

Passing from the alimentary tract comes the Urogenital Organs; the fundamental question involved being the effect on the kidney of various surgical procedures on the blood supply, capsule, and on the



ureters. In addition, a number of detached observations are made on various subjects relating to the urogenital organs.

The introductory and leading paper under Ductless Glands bears the title; *The Morphogenesis of the Follicles in the Human Thyroid Gland*.

The circulatory organs and blood receive similar treatment.

Under the Division, Syphilis and Skin is an extended discussion of Squamous-cell, Epithelioma of the Skin.

Under Division Nervous System are included eight important papers, one of which is an interesting review of the Pathogenesis of the Lesions of the Nervous System in Cases of Pernicious Anemia; another in Brain Changes Associated with Pernicious Anemia. In addition may be included a paper entitled *The Influence of the Vagus Nerve on Respiration*.

Among the papers under the head Trunk and Extremities is a notable paper on the Treatment of Chronic Empyema.

In group nine may be found a series of studies on Metabolism, and under group ten, general unclassified papers on various subjects.

The papers in this volume differ from those published in the Mayo Clinic in that many of them are based on original investigations prepared as a thesis for the higher degrees in medicine and surgery. The work is by mature investigators in special fields supplied with almost unlimited material and facilities under the direction of eminent teachers to meet the requirements set forth in the preface as the obligation of a university.

#### AN ESSAY ON THE PHYSIOLOGY OF MIND

By Francis Dercum, M.D., Ph.D., Professor of Nervous and Mental Diseases in the Jefferson Medical College, Philadelphia; 12 Mo. of 150 Pages. W. B. Saunders Company, 1922. Cloth \$1.75 Net.

In this volume Professor Dercum has endeavored to present to the reader who is interested in matters relating to the nervous system and the mind, a scientific discussion of what is known of the mind. To many perhaps, Dr. Dercum will appear materialistic, but he does not attempt to say what the mind is or to discuss the dual conception of "mind and matter," rather to present a "saner conception of its functions and limitations."

In the beginning, Dr. Dercum outlines an architectural plan of the nervous system; the properties of living protoplasm, its capacity for transmission of motion through its own substance, the differentiation of pathways of transmission. A receiving cell that receives the stimulus or "receptor," a muscle cell to which is conveyed the stimulus or "effector." Later comes a transmitting structure between the receiving cell and the muscle cell. Thus

we have an elementary structure which corresponds later to a differentiated nervous system which grows more complex by additions. The many muscle-cells becomes a restricted differentiated nerve cell group joined by extension processes of two kinds, multiple processes—dendrites—leading to the cell body, the other extremity leading from the cell body known as the axone. The mechanism becomes a terminal end organ or receptor, an axone, a central organ or effector, constituting a neurone, motor or sensory. A multitude of these nervous and intercalated neurone becomes a nervous system. With this architectural plan of a nervous system. Dr. Dercum proceeds in a synthetic manner to develop the activities of the mechanism to meet the needs of its possessor from the lower vertebrate animal to man. It is an interesting study from a physiological and philosophical point of view. If the author includes mind as one of the activities of a highly differentiated nervous system he is only presenting the inevitable facts of evolution.

#### PSYCHOANALYSIS

The third edition of the publication entitled *Psychoanalysis*, its theories and practical application, by A. A. Brill, Ph.B., M.D., which has recently come from the press, has been thoroughly revised in such a manner as to keep pace with the everincreasing and unending theories pertaining to the subject with which it deals. An added chapter pertaining to so-called irregular sex habits really constitutes one of the most important features of the work, since it concisely states the modern and generally accepted ideas on this subject. Another new feature of the third edition deals with the psychoanalytic explanation of the mental mechanisms underlying the diagnostic "no-man's land," which Kraepelin has designated as paraphrenia.

Although many of us, including the writer, are not psychoanalytic extremists, the subject is nevertheless of sufficient importance, to justify dignified consideration, since it embodies many grains of scientific truth mid the bushels of theoretical chaff. Hence a contribution such as that afforded by this volume on *Psychoanalysis*, should be accorded a place in every well classified medical library.

F. A. Ely.

#### A TEXT-BOOK OF GENERAL BACTERIOLOGY

By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Fully Illustrated. Seventh Edition, Thoroughly Revised. Philadelphia and London. W. B. Saunders Company, 1922.

The seventh edition of this excellent text-book has been extensively revised and brought up to date. The book has many attractive features: The text-book is tersely and clearly written, and is so ar-

ranged that the student will find it easy to distinguish between facts and theories. The author has carefully evaluated the wealth of new bacteriologic literature. The bibliography contains the most important new articles in bacteriology and serves to enhance the value of the book materially, in that it teaches the student from what sources the author has obtained his material and at the same time furnishes valuable aid to the original worker. The present edition further contains an adequate description of the most modern standard bacteriologic technic, which increases the value of the book very much to all who are doing bacteriologic work. The modern conception of immunology and the basic principles of serology are admirably and clearly set forth in the present edition. The chapters dealing with the unknown causes of infection diseases, on disease producing protozoa, and those dealing with bacteria in art and industries have been brought up to date so that the book in its present form, serves in a classical way a two-fold purpose, viz.—that of a scientific text-book for medical students and a reference work in bacteriology.

Daniel J. Glomset.

#### DISEASES OF THE EYE

A Hand Book of Ophthalmic Practice for Students and Practitioners. By George E. deSchweinitz, M.D., LL.D., Professor of Ophthalmology in the University of Pennsylvania; Ninth Edition, Reset; Octavo of 832 Pages with 415 Text-Illustrations and 7 Colored Plates. Philadelphia and London. W. B. Saunders Company, 1921. Cloth \$10.00 Net.

The eighth edition of this book appeared in 1917. Needless to say that in the four years which have elapsed since the appearance of the eighth edition there have been many advances in our knowledge of Ophthalmology and that these advances have been exceptionally rapid is shown in this new edition. The author states that he has utilized within the limitations of a book of this character the extensive literature and the unusual opportunities which the World's War has given rise to.

Numerous subjects appear for the first time. Some of them are; Jennings's Self-Recording Test for Colored Blindness; Measurement of Accommodation by Skiascopy; Electric Desiccation in the Treatment of Lid Carcinomas and Epibulbar growths; Unusual Forms of Conjunctivitis; Striate Clearing of Corneal Opacities; Trypanosoma Keratitis; Superficial Linear Keratitis; Keratitis Pustuliformis Profunda; Primary Progressive Calcareous Degeneration of the Cornea; Anterior Lenticonus; Localization and Organization of the Cortical Centers of Vision according to Holmes and Lester; Contusion and Concussion of the Eyeball in Warfare.

This edition although containing seventy-eight more pages of text is slightly smaller in size than

the previous one. There are forty-six pages on general optical principles, forty-five pages on examination of patient, 73 pages on ophthalmoscopy, skiascopy and refraction, 487 pages covering the various diseases of the eye. The chapter on operations contains 108 pages, it has been enlarged sixteen pages and contains fifteen new surgical procedures not mentioned in the previous edition. The chapters on refraction and fitting of glasses are excellent and of value to everyone doing this kind of work. Numerous foot note references to important publications have been inserted and a number of new illustrations have been added.

This edition bears throughout evidences of careful and thorough revision. The subjects are handled in a systematic way, the definitions and explanations are clear and concise. It is up to date and contains much new accurate information in readily accessible form and should be in the libraries of every one interested in ophthalmology.

E. P. Weih.

#### SUBMUCOUS RESECTION OF THE NASAL SEPTUM

By W. Meddaugh Dunning, M.D., Consulting Otologist, Fordham Hospital, N. Y. C.; Consulting Otologist, Manhattan State Hospital, N. Y.; Consulting Laryngologist, Ossining City Hospital, Ossining, N. Y.; Consulting Laryngologist, The Alexander Linn Hospital, Sussex, N. J.; Assistant Manhattan Eye and Ear Hospital, New York; Surgeon, Bronx Eye and Ear Infirmary, New York. Published by Surgery Publishing Company, New York City. Price \$1.50.

This book contains one hundred pages, is illustrated by twenty-five pages of drawings, printed upon heavy coated paper and substantially bound in cloth. The work is divided into eight chapters and covers thoroughly! The Nose, Breathing and Smelling, Common Septal Deviations, Surgical Procedure in Submucous Resection of the Nasal Septum, Special Surgical Procedure, Typical Case Histories and Their Significance, The Saddle-back Nose, etc.

The first five chapters of the book appear as a series of articles in the January, February and March, 1921 numbers of the American Journal of Surgery. These have been expanded, and revised, and with the addition of three chapters have been published in book form.

The subject matter is largely a resume of the professions knowledge of the subject with observations drawn from the writer's experience. The usual method of anesthetizing a septum with cocaine and adrenalin is explained in great detail, but there is no mention of the use of sub-periosteal injection of novocain for anesthesia and elevation of the periosteum from spurs. Several pages are devoted to the use of the Dunning Curette Elevator.

The book is recommended to all surgeons who are



interested in this operation with the hope that in its pages they may learn something which will be of benefit to the proccession of septal deviations still to come.

E. P. Weih.

#### CLINICAL DIAGNOSIS

A Text-Book of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers and Practitioners of Medicine. By Charles Philips Emerson, A. B., M.D. Late Resident Physician Johns Hopkins Hospital and Associate in Medicine. Professor of Medicine, Indiana University School of Medicine, 156 Illustrations; Fifth Edition. J. B. Lippincott Co.

The last edition of Professor Emerson's book appeared ten years ago and so many things have happened in clinical diagnosis that practically a new work has been necessary, avoiding the possible oversight of errors which are sometimes repeated in new editions. This is not a laboratory manual, as its title might imply, but a clinical discussion in which the laboratory is of fundamental importance.

The first chapter relates to the Sputum. The second chapter to the Urine. Then follow Gastric Contents, and Intestinal Contents. The Blood and Spinal Fluid receive extended consideration. The value of this work is not limited to physicians who do their own laboratory work but extends to men who employ a laboratory assistant. Laboratory observations to be of value should be directed by the physician who is conversant with the value of laboratory findings and this is evaluated by the somewhat extended discussion of clinical points of contact. The general practitioner will find this book of very considerable value in his daily work.

#### TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Third Series, Volume The Forty-Second;  
Printed for the College, 1920.

Few volumes reach our table more welcomed than the Transactions of the Philadelphia College of Physicians. The contributions contained represent the best of a cultured medical fraternity; they are carefully prepared and impress the highest ideals of a profession that sometimes seems almost at war.

The first that impresses us is a fine portrait of one of Philadelphia's most distinguished surgeons and citizens, Dr. Richard Hart. There are a number of technical papers, but what appeals to us most is a series of memoirs and reminiscences of physicians who have made Philadelphia medicine famous. Sir William Osler, by Dr. Thomas McCrae; by Dr. Hobart Amory Hare; by Dr. Charles W. Burr; by Dr. George William Norris.

Dr. H. C. Wood, by Dr. G. E. de Schweinitz; by Dr. F. X. Dercum; by Dr. Hobart Amory Hare; by Dr. William Henry Bennett; by Dr. D. J. Milton Miller.

The Reminiscences of Dr. H. C. Wood written by himself toward the close of his life and edited by Dr. de Schweinitz are exceedingly interesting and will be read I am sure by the generation of physicians who are passing away, with the deepest interest. Although Dr. H. C. Wood died only two years ago (January 3, 1920), yet his name is only a tradition, so little is thought of the men who contributed so much to the advancement of medicine, by the generation of physicians who today occupy the field.

The sections on Ophthalmology and Industrial Medicine are of exceeding interest.

#### ANNUAL REPORT OF THE SURGEON OF THE PUBLIC HEALTH SERVICE OF THE UNITED STATES

For the Fiscal Year 1921.—Government Printing Office.

This volume of 430 pages contains a great mass of valuable information concerning the activities of this most important department of government. In view of its accomplishments it seems almost impossible that congress could afford in any way to refuse to grant liberal appropriations to carry on the work and to maintain the highest degree of efficiency.

#### SOUTH AMERICA FROM A SURGEON'S POINT OF VIEW

By Franklin H. Martin, C.M.G., M.D., F.A.C.S., Director-General American College of Surgeons, Managing Editor Surgery, Gynecology and Obstetrics. Introduction by William J. Mayo, M.D., F.A.C.S.

This exceedingly interesting account of South America written by one of America's most distinguished surgeons in collaboration with Dr. W. J. Mayo, presents a story unequaled in interest by anything we have read concerning this great country. Doctor and Mrs. Martin and Doctor and Mrs. Mayo visited these countries under unusually favorable auspices, not only did they visit as North American surgeons but as representatives of the United States, and received honors due them not only as distinguished individual citizens, but as citizens of a great country.

Aside from the high literary merits of the story we are furnished with information unknown to us before concerning the people from a certain point of view, and particularly concerning the medical profession in their homes; their work, and facilities and methods of work.

Starting from "our dream days of youth and Robinson Crusoe to their return from some far off lands of the South Seas" we may follow this favored group from one point of interest to another preaching the doctrine of professional unity with the result of fifty conversions to the shrine of the American College of Surgeons.

The book is beautifully illustrated and with the personal reminiscences, and with the personal ob-

servations of the men of our own profession and the people among whom they work, their environment, the scenery, customs and manners brings a fund of information which must greatly influence us in our relations with a people, we had known little about in a direct way.

There is a historical, geographical, political, social and industrial summary, and also a vocabulary, that will in many ways be helpful in getting crooked things straight.

#### THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR

Volume 15, Statistics, Part One Army Anthropology. Based on Observations Made on Draft Recruits, 1917-1918, and on Veterans at Demobilization, 1919. Prepared Under the Direction of M. W. Ireland, Surgeon-General of the Army.—Government Printing Office.

The Medical History of the War will be published without regard to sequence in volume numbers from time to time in such order as material becomes available. The first volume is a statistical outline of the draft recruits of the army.

#### MEDICAL AND SURGICAL REPORTS OF THE EPISCOPAL HOSPITAL OF PHILADELPHIA

Volume Five, Wm. J. Dornan, Publisher.

This volume of 500 pages contains contributions from the staff of the hospital from 1916 to 1920; in all thirty-four papers, by well known physicians, surgeons and specialists.

#### NEW AND NON-OFFICIAL REMEDIES

New and Non-official Remedies, 1922, is ready for distribution. If you desire a copy of it for review, or if you find the book of value in connection with the publication of your journal, we shall be pleased to send you a complimentary copy.

In case you desire a copy of this book, kindly indicate the address to which it is to be sent.

During March the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

The Intra Products Co.:

Sterile Suspension Mercury Salicylate in Cacao Butter.

Sterile Suspension Mercury Salicylate in Olive Oil.

Meadows Oil and Chemical Corp.:

Ammonium Ichthyolate—Meadows.

During April the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-Official Remedies:

Abbott Laboratories:

Izal.

Izal Disinfectant Powder.

Intra Products Co.:

Ven Sterile Solution Mercury Benzoate 1 cc.

Merrell-Soule Co.:

Powdered Protein Milk—Merrell-Soule.

Parke, Davis & Co.:

Pertussis Vaccine.

Pneumococcus Vaccine (4 Types).

Streptococcus Vaccine Polyvalent (Scarlatina).

Typhoid—Paratyphoid Vaccine (Prophylactic).

Seydel Manufacturing Co.:

Benzocaine—Seydel.

Winthrop Chemical Co.:

Iothion.

Iothion Oil.

Sabromin.

Sabromin Tablets 8 Grains.

Acriflavine—Heyl:

Proflavine—Heyl: These products are now marketed by the National Aniline & Chemical Co. and the Council has continued the acceptance for New and Non-Official Remedies under the new firm name.

In addition to the articles enumerated in our letter of April 29, the following article was accepted during April:

Intra Products Co.:

Ven Sterile Solution Procaine 1 per cent.

During May the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

G. W. Carnrick Co.

Epinephrine—G. W. C. Co.

Epinephrine Chloride Solution—G. W. C. Co.

Intra Products Co.

Phenolsulphonaphthalein—Ipc.

Ven Sterile Solution Phenolsulphonaphthalein. 1 c.c.

Lederle Antitoxin Laboratories:

Pollen Diagnostics—Lederle.

H. K. Mulford Co.

Diphtheria Toxin—Antitoxin Mixture—Mulford.

National Aniline and Chemical Works:

Neutral Acriflavine—Heyl.

Tablets Neutral Acriflavine—Heyl, 0.1 Gm. (1½ grs.)

Neutral Acriflavine—Heyl Throat Tablets.

Neutral Acriflavine—Heyl "Pro Injectione" 0.5 gm. vials.

Neutral Acriflavine—Heyl "Pro Injectione" 1.0 gm. vials.

Winthrop Chemical Co.

Luminal Tablets ¼ grain.



# The Journal of the Iowa State Medical Society

VOL. XII

DES MOINES, IOWA, AUGUST 15, 1922

No. 8

## DIGITALIS IN CARDIAC DISEASE\*

HENRY A. CHRISTIAN, M.D., Boston

In seeking a topic on which to address you it seemed to me desirable to select one that concerned the majority of you and which might bring to you some suggestions that would be helpful in your usual routine of work. With this in mind I suggested two topics to your committee, and they selected the one on digitalis therapy. I believe they made a good choice, for in my experience there are many misconceptions in regard to digitalis among practitioners judged from their use of the drug on patients that subsequently have come under my care.

Certain more or less categorical statements may be made with advantage about digitalis, and some of these I will use to preface my remarks.

The dangers or toxic effects of digitalis are more serious as met with in medical books than in medical practice.

Some one of these toxic effects or so-called digitalis dangers really should be sought rather than avoided in digitalis therapy.

The real dangers in digitalis therapy are three: (a) using a poor digitalis preparation; (b) consciously or unconsciously prescribing too little of a potent digitalis preparation; (c) not knowing when digitalis should be started and stopped.

Digitalis usually is given in too small, i. e., insufficient dosage. I have yet to see the patient in whom too much digitalis had been given prior to my seeing the patient. I have given too much, i. e., a harmful dose of digitalis, myself to my knowledge just once, knowingly then taking a chance in a desperate case. The large majority of cardiac patients seen by me have had too little digitalis; a small percentage have had enough digitalis; none have had too much; some have had too little or enough from the point of view of dosage when actually they should have had none.

Genuine digitalis poisoning, of course, is possible, but it is one of the rarities of medicine.

Digitalis is good for the symptoms and physical signs the patient has provided those symptoms and signs are the result of cardiac insufficiency, i. e., decompensation.

The indications for starting digitalis therapy are the presence of symptoms and physical signs which are the result of cardiac insufficiency, i. e., decompensation.

The symptoms and physical signs of cardiac in-

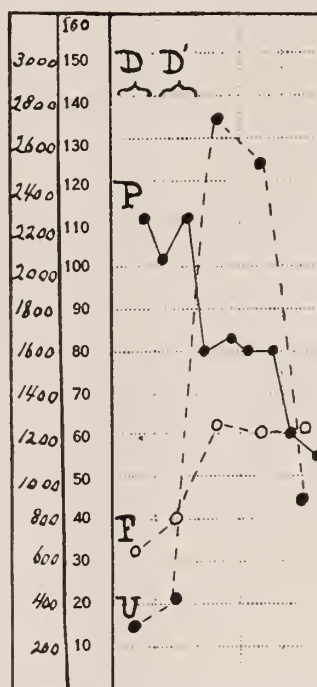


Chart I. Male, age 28, chronic cardiac valvular disease, mitral stenosis; rhythm regular. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. D = 3 doses of 0.2 gm. each of powdered digitalis leaves every 6 hours, a total of 0.6 gm. on this day. D<sup>1</sup> = 7 doses of 0.3 gm. each of powdered digitalis leaves every 6 hours, a total of 2.1 gm. on this day. Total D + D<sup>1</sup> = 2.7 gm. of powdered digitalis leaves. P = pulse rate counted at the wrist. F = fluid intake measured in c.c. U = measured in c.c. The effect of digitalis in this case was a slowed pulse (110 = 55) and on two days a marked diuresis, with urine increase from 400 to 2700 and 2500 c.c.

\*Address before the Iowa State Medical Society at the Seventy-first Annual Session, Des Moines, May 10, 11, 12, 1922.

sufficiency are breathlessness, cough, cyanosis, edema, pain, weakness, nausea, vomiting, enlargement of the liver, decreased urine output, rapid pulse.

The indications for stopping digitalis are improvement in these symptoms and signs or the

digitalis; (g) that aortic insufficiency is a contraindication for digitalis; (h) that myocardial degeneration is a contraindication for digitalis; (i) that high blood-pressure is a contraindication for digitalis; (j) that arteriosclerosis is a contraindication for digitalis; (k) that angina pectoris is a contraindication for digitalis; (l) that nausea and vomiting are due to some undesirable constituents in the digitalis preparation that may be removed by pharmaceutical art.

Other misconceptions might be enumerated but sufficient have been given to occupy us at present.

Now let us elaborate somewhat on those of the above statements that do not seem clear or for

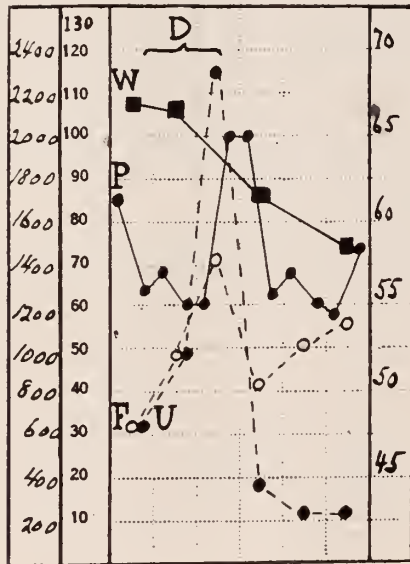


Chart II. Male, age 60, chronic myocarditis, rhythm regular. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. D = 8 doses of 0.2 gm. each of powdered digitalis leaves every 6 hours, a total of 1.6 gm. P = pulse rate counted at the wrist. F = fluid intake measured in c.c. U = urine measured in c.c. W = weight of the patient in kilograms. The effect of digitalis in this case was a moderately slowed pulse rate (85 to 60), a diuresis with urine increase from 625 to 975 and 2300 c.c., and a decrease in body weight of 7.8 kilos, or 17.2 pounds.

occurrence of some of the toxic effects of digitalis.

The toxic effects of digitalis are nausea, vomiting, certain arrhythmias, as bigeminal pulse and heart block, rarely diarrhea.

There are a number of misconceptions about digitalis therapy now in vogue, some very generally. Some of these are: (a) that a regular pulse indicates that a poor digitalis effect will be obtained; (b) that striking digitalis effects are confined to patients with auricular fibrillation; (c) that a slow pulse indicates that a poor digitalis effect will be obtained; (d) that a fast pulse is an indication for the use of digitalis; (e) that a murmur is an indication for the use of digitalis; (f) that cardiac enlargement is an indication for

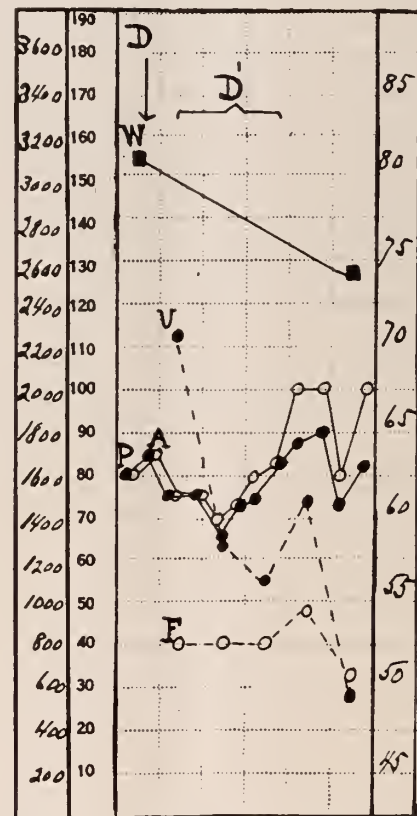


Chart III. Female, age 45, chronic myocarditis, auricular fibrillation. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. D = 0.5 gm. of powdered digitalis leaves given at 3:35 p. m. D<sup>1</sup> = 9 doses of 0.2 gm. each of powdered digitalis leaves given 4 times a day, a total of 1.8 gm. Total D + D<sup>1</sup> = 2.3 gm. of powdered digitalis leaves. A = heart rate counted with a stethoscope over the apex region. P = pulse rate counted at the wrist. F = fluid intake measured in c.c. U = urine measured in c.c. W = weight of the patient in kilograms. The effect of digitalis in this case was a diuresis with urine output of 2250 c.c. and a decrease in body weight of 7 kilos, or 15.4 pounds.



which further evidence appears to be desirable. As to the toxic effects and dangers of digitalis little need be added to what I have already said. The striking fact is that serious toxic effects and real harm from digitalis therapy are almost never seen. Very often symptoms regarded as the result of digitalis are really due to failure to give enough digitalis to control cardiac symptoms. So often digitalis is stopped or some other cardiac drug is used because of nausea when it is more

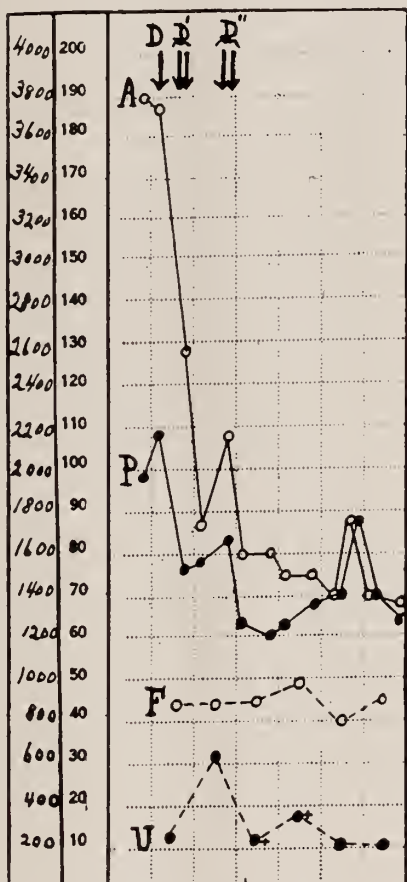


Chart IV. Female, age 28, chronic cardiac valvular disease, mitral stenosis and regurgitation, aortic regurgitation; auricular fibrillation. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. D = 1 c.c. tincture of digitalis given intravenously at 10:12 a. m. D<sup>1</sup> = 2 doses of 0.5 gm. of powdered digitalis leaves given at 1:52 and 8 p. m., a total of 1 gm. D<sup>2</sup> = 2 doses of 0.1 gm. of powdered digitalis leaves given at 6 and 10 p. m., a total of 0.2 gm. Total D + D<sup>1</sup> + D<sup>2</sup> = 1 c.c. of tincture intravenously and 1.2 gm. of powdered leaves by mouth. A = heart rate counted with a stethoscope over the apex region. P = pulse rate counted at the wrist. F = fluid intake measured in c.c. U = urine measured in c.c. The effect of digitalis in this case was a slowed apex rate (190 to 70), with disappearance of pulse deficit.

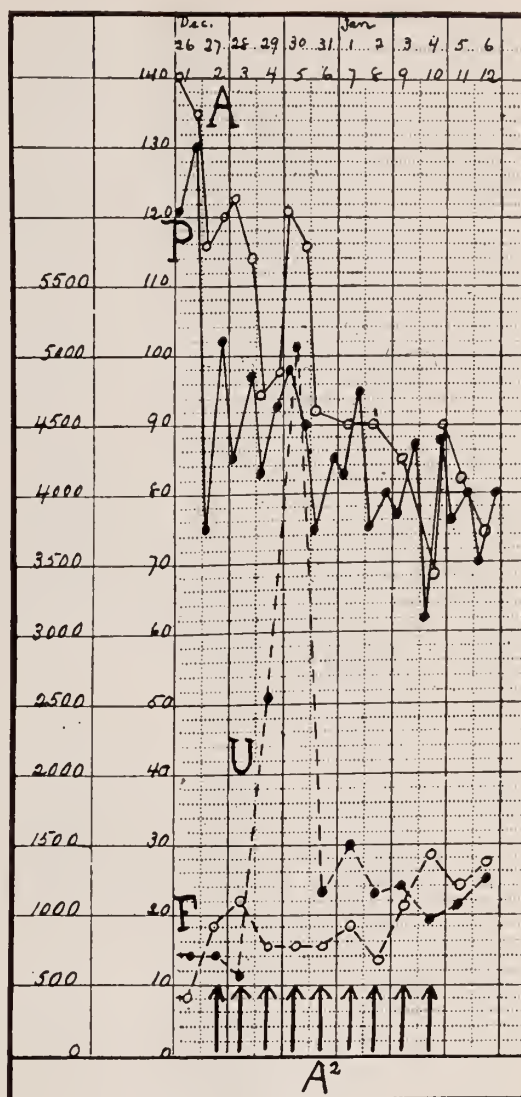


Chart V. Male, age 57, chronic myocarditis, auricular fibrillation. The first column of figures on the left hand side of the chart indicates the amount of urine output and fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and pulse rates per minute. The arrows of A<sup>2</sup> indicate days on which the patient received three doses of 0.1 gm. each of powdered digitalis leaves. A = heart rate counted with a stethoscope over the apex region. P = pulse rate counted at the wrist. F = fluid intake measured in c.c. U = urine measured in c.c. The effect of digitalis in this case was a marked slowing of the heart rate from 140 to 74 and a diuresis with urine increase from 550 to 2525 and 5550 c.c. per 24 hours.

digitalis, not less, that is needed to abate the nausea.

It needs to be recognized that very often the digitalis which the patient purchases has but slight potency. A serious error is to regard a drop as a minim and to prescribe fifteen drops of tincture of digitalis thinking to give fifteen

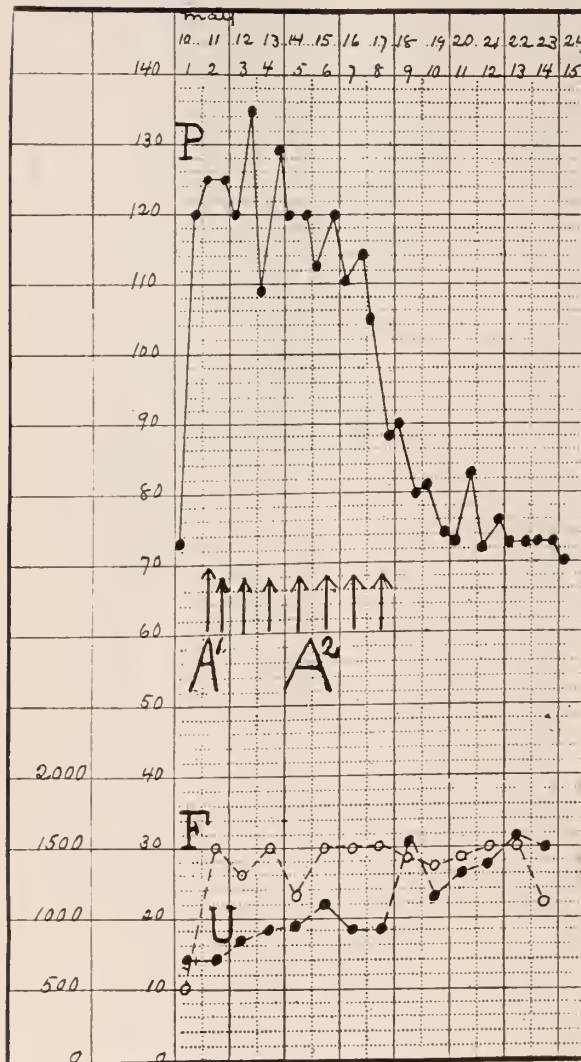


Chart VI. Male, age 35, chronic myocarditis, regular rhythm. The first column of figures on the left hand side of the chart indicates the amount of urine output and fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and pulse rates per minute. Arrow over  $A^1$  indicates intramuscular dose of 1 c.c. of digipuratum. Arrows over  $A^2$  indicate days on which the patient received three doses of 0.1 gm. each of powdered digitalis leaves. P = pulse rate counted at the wrist. F = fluid intake measured in c.c. U = urine measured in c.c. The effect of digitalis in this case was a marked slowing of the pulse from 135 to 72.

minims; the patient taking fifteen drops often gets but five minims, rarely more than seven, both very small doses. This error accounts for much unconscious prescribing of too small a dose. The rest comes from the digitalis being of low potency. I would urge on you the abandoning entirely of directing your patients to take any number of drops of digitalis tincture; most desirable doses contain too many drops to ask your

patient to use such a crude method of measurement.

All too often digitalis is given on the part of the physician when the indications for its use are not evident. There should be definite evidences of cardiac insufficiency before digitalis is given. Increased heart rate alone is never the result of cardiac insufficiency and never the indication for digitalis therapy. This may seem a strong statement, but following it, will, I am sure, improve your digitalis therapy and save you from giving it when it will do no good and may do harm. Paroxysmal tachycardia does not respond to digitalis and digitalis does not effect simple tachycardia. In infectious diseases a rapid regular pulse, in my opinion, is not an indication for digitalis, and its use will do your patient no good. I see no advantage in the routine use of digitalis in pneumonia, a quite usual procedure. In the pneumonia doing badly with a rapid, weak pulse, I have never seen digitalis help and I have stopped using it in such cases. If auricular fibrillation develops or cardiac decompensation is present digitalis is very useful. It then behooves practitioners to recognize clearly what are the symptoms and signs of cardiac decompensation, and these I have already enumerated. Here I should add that no murmur of whatsoever sort, nor enlargement of the heart, in itself is an indication for digitalis therapy. If symptoms and signs of cardiac insufficiency are present give digitalis until they improve or until some of the toxic effects of digitalis appear. The remarkable thing is that but extremely few cardiac cases fail to show some improvement in some of the evidences of cardiac decompensation when adequate dosage of digitalis is used. In ninety-seven consecutive adult cases of my own eighty-one showed definite symptoms or signs of cardiac decompensation. Ninety per cent of these showed definite improvement in cardiac condition following digitalis therapy. The nine failures resulted from close approach of death in six, aortic aneurysm in one, chronic nephritis that prevented diuresis in one, and there was no apparent reason in one.

That a regular pulse indicates that a poor digitalis effect will be obtained is not borne out by the chart of the following case (Chart I). This patient was a male of twenty-eight years of age with mitral stenosis and regular rhythm. Digitalis produced a slowing of the pulse from 110 to 55 and on two days there was a marked diuresis with urine increasing from 400 to 2700 and 2500 cc. per twenty-four hours. Such good digitalis effects were obtained in 72.5 per cent of a



series of patients with a regular rhythm studied by me.

That striking digitalis effects are confined to patients with auricular fibrillation is not borne out by my experience, for in ninety-seven consecutive adult cases, of which forty had regular rates and fifty-seven fibrillated, definite digitalis effects were obtained irrespective of regular rhythm or fibrillation, the percentage being 72.5 per cent for regular rhythm and 75.4 per cent for auricular fibrillation.

As to a slow pulse indicating a poor digitalis effect the charts of the following cases show that this does not hold true. The first patient was a male, age sixty, with chronic myocarditis and regular rhythm. In this patient the effect of digitalis (Chart II) was a very moderate slowing of the pulse rate from 85 to 60, an increase in urine output from 625 to 975 and 2300 cc. per twenty-four hours, and a decrease in body weight of 7.8 kilos or 17.2 pounds. The second patient was a female age forty-five with chronic myocarditis and auricular fibrillation. The effect of the digitalis in this case (Chart III) was a diuresis, increasing the urine to 2250 cc. in twenty-four hours, and a decrease in body weight of seven kilos or 15.4 pounds.

As to aortic insufficiency being a contraindication for digitalis, it is generally held now that digitalis does not at all increase the probability of the heart stopping in diastole on the theory that digitalis prolongs diastole in its slowing effect on the heart and so increases the regurgitation of blood back from the aorta leading to over distention of the left ventricle. Perhaps excellent digitalis effects are not obtained as regularly with aortic insufficiency as with other valve lesions, but often they are extremely satisfactory as shown by the chart of the following case. This patient was a female, age twenty-eight, with aortic regurgitation and mitral stenosis and regurgitation. She had auricular fibrillation. The effect of digitalis (Chart IV) was to slow the apex rate from 190 to 70 and cause a disappearance of the pulse deficit.

The statement that myocardial degeneration is a contraindication for digitalis is not in harmony with the striking effects obtained in auricular fibrillation which is an indication of myocardial disease. Nor is it in accord with the splendid results of digitalis obtained in chronic myocarditis as already illustrated by Chart III and IV. Chart V of a middle aged man with chronic myocarditis and auricular fibrillation shows particularly well a digitalis effect with slowing of the apex rate from 140 to 74 and a diuresis from 700 to 2550

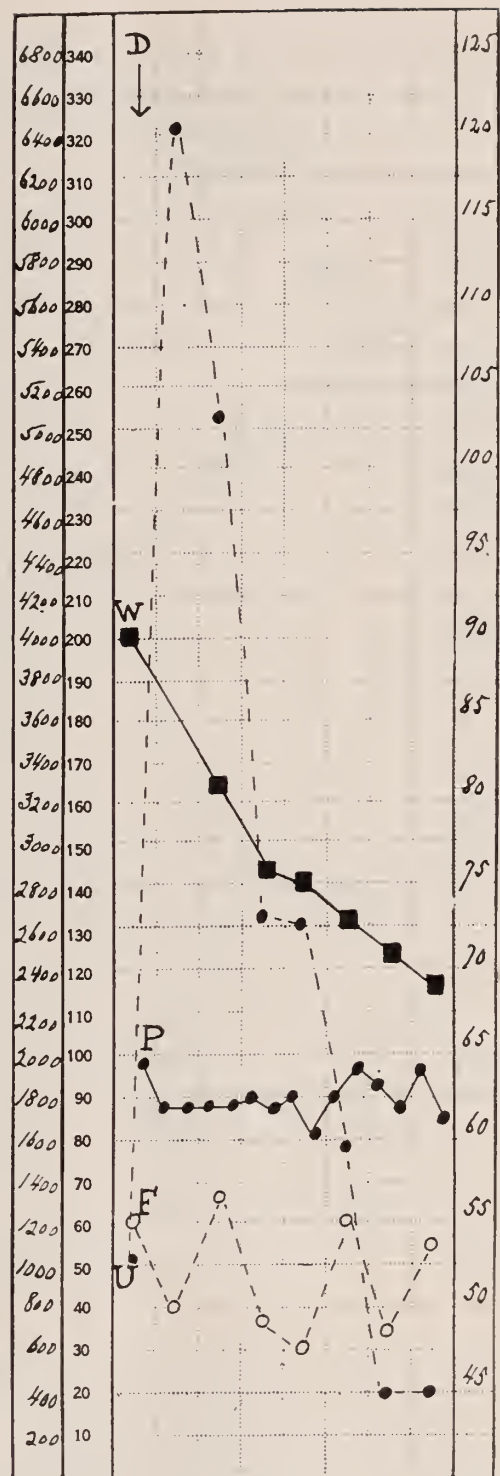


Chart VII. Male, age 45, chronic myocarditis, hypertension, rhythm regular. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. D = a single dose of 2.3 gm. of powder.

dered digitalis leaves given at 10:30 a. m. P = pulse rate counted at the wrist. F = fluid intake measured in c.c. U = urine measured in c.c. W = weight of the patient in kilograms. The effect of digitalis in this case was to produce a very marked diuresis with increase of urine from 1000 to 6425, 5050, 2625 and 2600 c.c., and a decrease in body weight of 21.4 kilos, or 47 pounds.

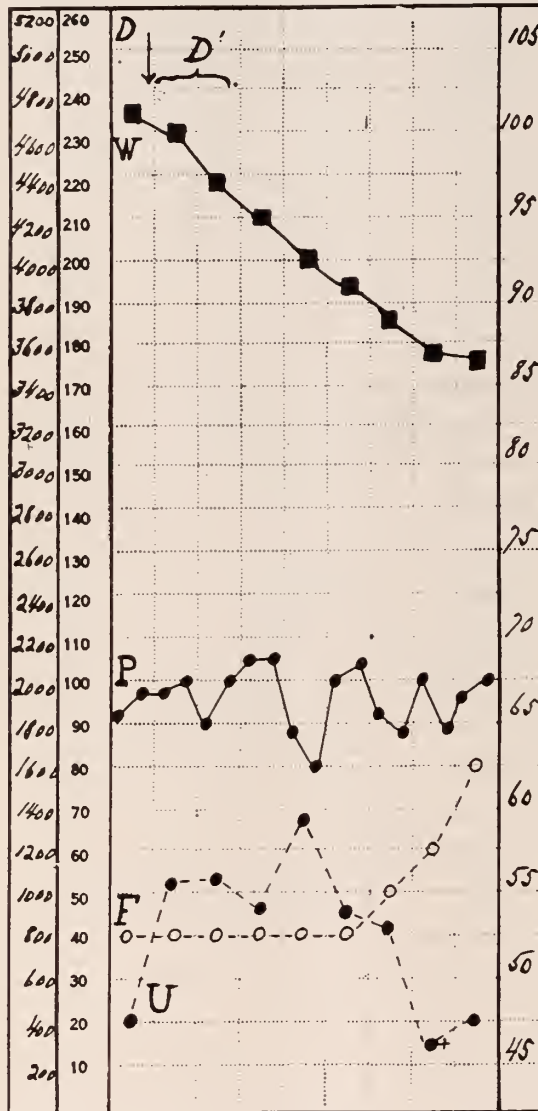


Chart VIII. Female, age 43, chronic myocarditis, hypertension, rhythm regular. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. D = a single dose of 1.2 gm. of powdered digitalis leaves given at 9:30 p. m. D<sup>1</sup> = 5 doses of 0.2 gm. each of powdered digitalis leaves every 6 hours, started at 3:30 a. m., a total of 1 gm. Total D + D<sup>1</sup> = 2.2 gm. of powdered digitalis leaves. P = pulse rate counted at the wrist. F = fluid intake measured in c.c. U = urine measured in c.c. W = weight of the patient in kilograms. The effect

of digitalis in this case was a slight prolonged diuresis and a decrease in body weight of 15 kilos, or 33 pounds.

and 5100 cc. per twenty-four hours. Even with pulsus alternans, one of the best indications we have of severe myocardial disease, splendid results may follow digitalis as shown in the following case. Here in a man of middle age with chronic myocarditis, the electrocardiograms showed a regular cardiac rhythm, but tracings from the brachial artery indicated a marked degree of pulsus alternans. Digitalis under these conditions, however, produced (Chart VI) a marked slowing of the pulse from an average of 125 to 72. In just the same way, hypertension, arteriosclerosis and angina pectoris are not contraindications for digitalis. With all of these excellent digitalis effects are obtained. The following cases may serve to illustrate this. In the first patient of this group there was a chronic myocarditis with hypertension and a regular cardiac rhythm in a male, age forty-five. Digitalis here produced (Chart VII) a very marked diuresis, increasing the urine from 1000 cc. to 6425, 5050, 2625 and 2600 cc. per twenty-four hours and decreased the body weight by 21.4 kilos or forty-seven pounds. In a second case there was hypertension and chronic myocarditis in a woman of forty-three who had a regular cardiac rhythm. Here the effect of digitalis was (Chart VIII) a slight prolonged diuresis and a decrease in body weight of fifteen kilos or thirty-three pounds. In a man of fifty-nine with chronic myocarditis, auricular fibrillation, marked arteriosclerosis and a former right sided hemiplegia, digitalis produced (Chart IX) a delayed decrease in the apex rate from 110 to 78, a delayed but prolonged moderate diuresis and a decrease in body weight of nineteen kilos or 41.8 pounds.

Finally a word as to the misconception that nausea and vomiting are due to some undesirable constituent of digitalis that may be removed by pharmaceutical art. Hatcher's experimental work has shown clearly that nausea and vomiting are central toxic effects of digitalis on the vomiting center and not a local action on the gastric mucosa. My own experience has been that digitalis in its simplest form, namely, as powdered leaves, does not produce nausea and vomiting until other definite digitalis effects are manifest, and that it may be used advantageously in almost every cardiac patient even when nauseated and vomiting. I have often tried preparations supposed to have been freed of their objectionable gastric action. The result uniformly is that either they produce nausea and vomiting just as promptly as the sim-



ple powdered digitalis or if they do not, it is because they are not potent preparations, i. e., they do not give satisfactory digitalis effects. My own experience is that digitalis lutea, claimed to have less toxic effects than digitalis purpurea, produces the same nausea when the two are used in corresponding dosage. I doubt whether it is very likely that a digitalis preparation will ever be produced which will give satisfactorily digitalis effects and not cause nausea. I even question whether such a preparation is really desirable. Nausea is, after all, a very useful, easily recognizable effect of sufficient digitalis, and so serves a very useful purpose in digitalis therapy. If one is carefully watching his patients in many instances full therapeutic effects of digitalis may be obtained without causing nausea and if nausea does result it need not be severe. Marked nausea and vomiting occur in reverse ratio to the care that is being given to the observation of one's patients. Anyhow I firmly believe that so far no pharmaceutical art has succeeded in removing the nausea producing portion of digitalis and left behind its needed therapeutic portions. After a fair trial of the various available digitalis preparations, I feel convinced that none are superior to digitalis in its simplest form, the leaves powdered and mixed with a sticky vehicle so as to make a pill.

Digitalis may be given in a single massive dose, or in a modified massive dose method, or in regularly repeated small doses. Any of these methods is effective. The chief difference lies in the length of time needed to produce a result. For the average cardiac case there is no real preference. In a few very severe cases the modified massive dose method is better. Occasionally the single massive dose may be life saving. When all is done and said, digitalis therapy is very simple. Just give enough of a potent leaf, prepared in anyway, by any accepted method of dosage, and the result is most satisfactory in almost every case. So far I have never seen a patient to whom digitalis could not be given when it was indicated by symptoms and physical signs without doing the patient harm and almost always with excellent results. I know of no cardiac case in which it is necessary to substitute any other drug for digitalis, and I consider powdered leaves of digitalis in pill form a thoroughly satisfactory preparation. In seven years use at the Peter Bent Brigham Hospital I have seen digitalis leaves of different strengths, but so far we have never purchased a leaf that was unsatisfactory in its results, and except for periods of testing some particular preparation, we have consistently adhered to using powdered leaves in pill form be-

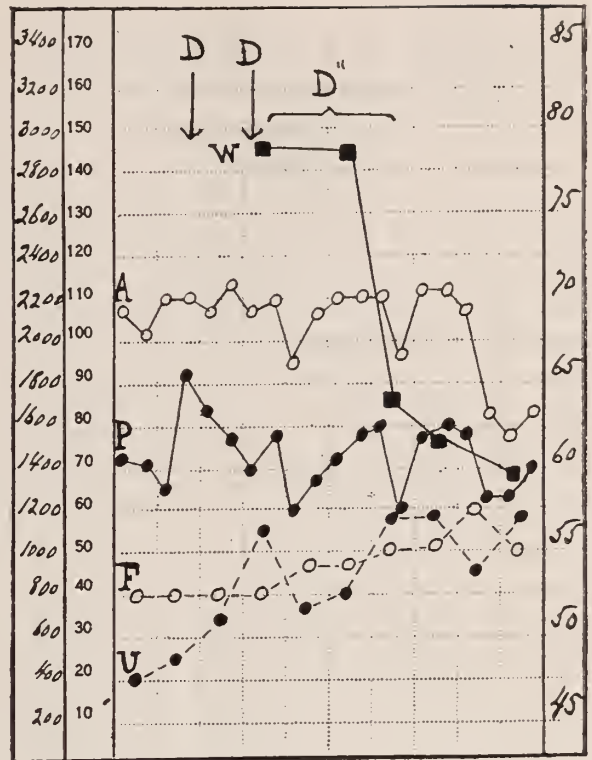


Chart IX. Male, age 39, chronic myocarditis, auricular fibrillation, arteriosclerosis, old right hemiplegia. The first column of figures on the left hand side of the chart indicates the amount of urine output and the fluid intake for each 24 hours expressed in c.c. The second column of figures on the left of the chart indicates the apex and radial pulse rates per minute. The column of figures on the right indicates the weight of the patient in kilograms. D = a single dose of 1.8 gm. of powdered digitalis leaves. D<sup>1</sup> = 0.2 gm. of powdered digitalis leaves. D<sup>2</sup> = 15 doses of 0.1 gm. each of powdered digitalis leaves every 6 hours, a total of 1.5 gm. Total D + D<sup>1</sup> + D<sup>2</sup> = 3.5 gm. of powdered digitalis leaves. A = heart rate counted with a stethoscope over the apex region. P = pulse rate counted at the wrist. F = fluid intake measured in c.c. U = urine measured in c.c. W = weight of the patient in kilograms. The effect of digitalis in this case was a delayed decrease in apex rate (110 to 78), with a moderate decrease in pulse deficit, a delayed but prolonged moderate diuresis, and a decrease in body weight of 19 kilos, or 41.8 pounds.

cause the results were thoroughly satisfactory. We have found that using a new sample of leaves on a group of patients was an eminently satisfactory way of finding out the potency of the leaf and the most effective dosage. Standardizing on animals is helpful but by no means essential. For much of the time we have not standardized our leaves on animals and still our results are satisfactory. I am saying this not to decry animal standardization but merely to show that it is not essential to good digitalis therapy in the hands of one with as much as several cardiac cases constantly on hand for treatment.

THE EFFECT OF OCCLUSION OF THE  
CORONARY ARTERIES ON THE  
HEART'S ACTION AND ITS RE-  
LATIONSHIP TO ANGINA  
PECTORIS\*

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One might think that the subject of cardiac pain and coronary artery disease was almost threadbare, for angina has been talked of and written about for years and has become so familiar as to be commonplace. But when a careful search is made for very exact information concerning the actual cause of precordial pains, their importance, or indeed their precise relation to diseases of the heart muscle, the coronary arteries or the aorta, this exact information is meagre, or incomplete.

Since pain in the region of the heart is a symptom that quickly attracts the attention of the patient and frequently arouses not only his anxiety but that of his physician, it behooves us to take stock from time to time of our knowledge of this condition; to realize our limitations in interpreting the symptoms and to add what grains of information that we may possess in an effort to elucidate more clearly its causes or its meaning.

Undoubtedly there are many patients who have severe precordial pain upon exertion and yet have no organic disease of the heart. This is particularly true of the young adults with irritable heart or disordered action of the heart. The precordial pain in these patients is not a symptom of grave circulatory disease threatening life, and though we appreciate the insignificance of this pain, we are highly uncertain as to its origin. The precordial pain of mitral stenosis, that is so often localized in the apical region has an entirely different significance, and though it is associated with an organic heart lesion, it may subside as Mackenzie says, when auricular fibrillation sets in and dyspnoea appears on exertion. The pain of mitral stenosis is no more a warning of sudden death than is the pain of irritable heart. In aortitis and particularly that due to syphilis, the substernal pain which frequently radiates to the neck or to the left arm is a signal of danger ahead and these patients may without further warning drop dead.

It has usually been supposed that the serious forms of precordial pain were dependent upon disease of the coronary arteries, for it has often been found at the autopsy upon patients dying of

angina pectoris that the coronary arteries were more or less diseased.

From the time of Huchard, however, the French have emphasized the importance of disease of the aorta itself as a cause of angina pectoris, and among the English who have contributed so much to this important subject, Sir Clifford Allbutt upholds most strongly the view that the common cause of angina pectoris is disease of the wall of this great vessel.

With the more careful studies of the syphilitic form of aortitis, which have been made in the last ten years, our information has been somewhat increased as regards the pain associated with this affection. We now know from the careful observations of Mackenzie and Head, that pains connected with disease of the heart and aorta are referred through reflex impulses through the spinal segments to the peripheral nerves, and, therefore, are distributed to definite regions of the body which are often far removed from the seat of origin in the diseased organ. It is also known that the walls of the aorta, as well as of the heart, are well supplied with nerves which when irritated may arouse serious reflex phenomena. The physiological studies of Francois Frank rarely quoted, showed well how paroxysms of dyspnoea might follow stimulation of the root of the aorta in dogs. Thus the anatomical and physiological mechanisms are at hand, to allow of the transmission of stimuli from the root of the aorta to the spinal cord, and one can readily conceive that some of these impulses might result in pain.

The pain in syphilitic aortitis is usually situated high in the chest, beneath the sternum and sometimes the manubrium. With great frequency it radiates to the left shoulder, the inner surface of the arm, the forearm, or actually to the fingers. Occasionally the radiation is up the left side of the neck, into the jaw or teeth or even to the face. The attacks are often classic of angina pectoris and sudden death is not infrequent. The fact that the syphilitic process usually affects the root of the aorta, and often produces in this situation, narrowing of the mouths of the coronary arteries has led many to believe that interference with the coronary circulation is the direct cause of angina pectoris in syphilitic aortitis. It is indeed difficult in such cases, to disregard a possible coronary stenosis, but there is considerable evidence to show that this is not the cause of anginal pain in all cases of syphilitic aortitis, for typical cases of angina pectoris occur in syphilitic aortitis without the slightest involvement of the coronary arteries. In

\*Presented before the Tri-State District Medical Association, Milwaukee.



many cases, however, disease of the aortic valves gives rise to aortic insufficiency, and it is difficult under these circumstances to exclude as a cause of the pain, a sudden stretching of the wall of the ventricles, which Mackenzie considers of such importance as a cause of anginal pain. Although it is difficult to secure proof, the facts and observations at our disposal suggest very strongly, that irritation and especially sudden stretching of the walls of the aorta, as well as the walls of the chambers of the heart, may result in disagreeable sensations, varying from slight sub-sternal oppression to agonizing pain.

Occlusion of the coronary arteries whether slow or rapid is in itself a very serious disorder, and the recognition of this disease by an analysis of symptoms and physical signs is of utmost importance, not only because the condition forms one chapter in the group of anginas, but because the life of the patient may hang on the diagnosis. The clinical syndrome that characterizes coronary thrombosis has recently received much attention and the excellent descriptions of Herrick, have made many of the symptoms and signs of this disorder sufficiently familiar to allow of a probable clinical diagnosis in many instances. The picture in its typical form, however, is not common to observe and it, therefore, is important to add the information that may be gained from careful studies of such cases, especially when an autopsy can be obtained, so that our knowledge of this important disease may be enriched. It has seemed to me, consequently, of value, to bring together a group of such cases for study and analysis and to present a summary of the results at this time.

Many of the autopsies and the pathological work were done by Dr. Von Glahn and some of the electrocardiograms were collected and analyzed by Dr. Richardson.

From 1913 until July, 1921, there were observed at the Presbyterian Hospital, seventeen cases of advanced coronary artery disease in all of whom the final diagnosis was made at autopsy. Electro-cardiograms were obtained in nine of the seventeen cases.

From the clinical standpoint the cases are fairly sharply marked into two groups, namely, those patients who do not suffer pain, and those who do have pain. There were only four cases that were free from pain. The disease in these cases ran the course of rapidly progressive myocardial insufficiency.

In the second group of twelve cases, there were features of special significance which often were suggestive of some extensive, though rarely sud-

den damage to the heart muscle. In all of them pain either intermittent or constant and situated over the precordium and occasionally radiating to the left side or to the left arm, was a prominent feature. In only one was there any definite evidences of disease of the heart valves. This was a case of aortic insufficiency. In three there were thrombi in vessels other than the coronary arteries, one case having suffered from gangrene of the toes due to what was supposed to be thromboangitis obliterans. In four pericardial friction rubs were heard during the last illness. To illustrate the course of the disease in these patients, I may briefly review one or two of them.

A gentleman, fifty-four years of age, who had spent much time in Cuba was admitted to the Presbyterian Hospital on June 9, 1921, complaining of an acute gastric disturbance. He had always been extremely healthy but twenty years ago after taking a very difficult and fatiguing horseback ride he had experienced a sharp and severe pain in the left chest that momentarily disabled him. From that time until four years ago he had to be quite careful in walking or riding, for any extra exertion would bring on an attack of pain. He described the pain as though a band were drawn about his chest in the position of inspiration. He obtained relief by rest, by belching of gas and by holding his chest in the inspiratory position. For four years he had been getting progressively worse and his tolerance of exercise had steadily diminished. He had considered that he was suffering from some stomach trouble and had consulted many doctors all of whom told him that they could find no abnormality. The present attack set in with violent pain in the epigastrium at 8:00 o'clock in the evening and immediately after a meal. It was the most severe he had ever had. The pain extended laterally to the sides of both arms. He felt as if he had much gas on the stomach which he could not belch up. The pain had continued almost unabated during ten days. The patient when he arrived at the hospital was in much pain. He was slightly obese, was sitting up in bed, was pale, and seemed much prostrated. There was no cyanosis. There were considerable numbers of rales at both bases. The respirations were shallow and slightly increased. The pulse was rapid, 120, and extremely feeble. The blood-pressure was only 76/68. The cardiac impulse could not be felt. The heart was enlarged to percussion. The heart sounds were feeble. There was a gallop rhythm but no murmur could be heard. There was no hyperesthesia over the precordial area or over the left arm. The abdomen was soft and not especially tender. The liver was palpable below the costal margin. There was no edema of the extremities. The impression then, was that this patient had had attacks of angina pectoris, and was suffering from acute cardiac insufficiency. The possibility of coronary thrombosis was considered. Digifolin was administered imme-

diately and on continued digitalis therapy, diet and rest, his condition improved slightly. As the pain gradually diminished the signs of cardiac insufficiency appeared. There was edema of the ankles, enlargement of the liver and fluid in the pleural cavities. The gallop rhythm was replaced by a systolic murmur and the blood-pressure rose to 110/80. The subsequent course was characterized by a progressive cardiac insufficiency, attacks of dyspnoea, and a few days before his death, the appearance of extra systoles. The pulse ranged between 90 and 120. The electrocardiograms showed various phases of bundle branch block. He died suddenly on the night of March 25. The history and clinical course seemed to us to justify the diagnosis of coronary artery disease probably with thrombosis.

The autopsy disclosed the most extreme degree of coronary arterio-sclerosis with narrowing of the right artery and complete occlusion 3 cm. from its origin. The left coronary was calcified, the descending branch was occluded at a distance of 0.5 cm. from its origin and converted into a cord for 3 cm. below this point, while the circumflex branch of the left was calcified and plugged by a thrombus mass at its origin from the main stem. The heart was somewhat enlarged weighing 450 grams. There was the most extreme fibrosis of the walls of the ventricle, particularly of the posterior wall of the left.

This history illustrates the course of events in those cases in which the disease pursues a long course, though the terminal and acute illness may be of comparatively short duration and death itself may come suddenly.

There are instances of coronary thrombosis, however, in which death follows shortly after the first appearance of symptoms, though in this series it was rare and occurred in only two cases.

The following is a characteristic example:

A music teacher, forty-four years of age, was admitted to the Presbyterian Hospital on November 20, 1914, complaining of pain in the pit of the stomach, which he had had for two days. Two nights before admission, after eating in a restaurant he was seized with a sudden severe pain in both sides of the chest. It extended especially to the left and was more severe on this side. He was somewhat relieved by drinking hot water and belching. The pain recurred off and on since then and at times was terrific. It started in the pit of the stomach and radiated to the left chest. Recently it had been more constant but less intense. He vomited the day before admission. He was in exquisite pain and was relieved by lying on his back. The patient was rather a large man and was somewhat cyanotic, and writhed about in bed. There were a few rales at the bases of the lungs. The apical impulse of the heart could not be seen nor felt. The heart was somewhat enlarged. The sounds were short and sharp. There was a very short systolic murmur at the apex. The

rate varied and at times 150 to the minute, at others only 80. The blood-pressure was 98/75. The abdomen was soft, but there was some tenderness in the epigastrium. The liver was just palpable at the costal margin. The temperature was 102 $\frac{3}{4}$ . On November 21, though the pain was somewhat better, his general condition had not improved and the paroxysms of tachycardia continued. On the 22nd, the pulse remained persistently at 170 and the electrocardiograms showed auricular flutter. He failed rapidly, Cheyne-Stokes respiration appeared, he became pale and cyanotic, the chest pain continued, radiating from the epigastrium across the chest to the left axilla, his extremities were cold and clammy, a pericardial friction rub was heard and he died in collapse on November 26. The illness was short lasting only nine days. It was suspected from the acute onset of excruciating pain with cardiac collapse and tachycardia and from the later development of a pericardial friction rub that the patient might have coronary thrombosis with infarction of the myocardium as a sequel.

The autopsy revealed general arterio-sclerosis with sclerosis of the coronary arteries of marked degree causing great narrowing of the lumen in both. In the descending branch of the left coronary there was a fresh thrombus about 1 cm. in length which entirely occluded the lumen. The vessel was besides markedly sclerotic and even where it was not thrombosed the lumen was scarcely permeable. The heart was enlarged and weighed 675 grams. There was a fresh fibrinous exudate over the pericardial surface. The left ventricle seemed to bulge. The cavity was enlarged and in the apex was a soft friable thrombus. The wall of the left ventricle corresponding to the distribution of the descending branch of the left coronary was thin and in places soft and friable. It appeared on section to be an infarct.

This case might be used to typify the classical examples of coronary thrombosis and yet the patient was really the only one in the group that presented this picture.

Finally, mention must be made of the single case of coronary embolus in Group III.

A summary of these seventeen cases, shows that an occlusion of one or more important branches of the coronary arteries by a sclerotic process occurred in six, occlusion by thrombi always associated with sclerosis in ten, and occlusion by embolus in an otherwise normal coronary artery in one.

In the last case death occurred almost immediately, and it seems probable from the reports of occasional instances of rapid and complete occlusion of a left coronary artery which had not previously been diseased, that death usually occurs instantly or within a few minutes after this accident in man.

There were certain features common to the remaining sixteen cases.



Few patients succumb to this affection before the age of fifty. Two patients were forty-four and forty-eight respectively; eight were between the ages of fifty and sixty, five between sixty and seventy, and one over seventy. All but one presented symptoms of rapidly progressive cardiac insufficiency, and this one patient died of carcinoma of the stomach. In most instances the pulse was elevated and in many there was some variety of cardiac irregularity. Occasionally there was fever and sometimes a moderate leucocytosis. Only two patients gave a positive Wassermann reaction. In one of these, there was a typical syphilitic aortitis with occlusion of the mouth of the right coronary by this process.

From the survey of these cases and a review of those which have been reported in the literature, it seems likely that we cannot well separate the different forms of coronary obstruction in elderly people, for the symptoms, the signs and the resultant changes in the heart muscle may be the same whether the occlusion is produced by thrombosis or by sclerosis.

Our information concerning the effect of interference with an absolutely normal coronary circulation is derived almost exclusively from experiments upon dogs, and according to the recent work of Porter, of Miller and Mathews and of Smith, the ligation of one or even two branches of the coronary artery is not always fatal. Miller and Mathews tied the ramus descendens sinister without causing death in any of their dogs, and Smith in eleven dogs had a mortality of only 9 per cent. The mortality is much higher, however, when the circumflex branch of the left or the right artery is tied and was 57.54 per cent in Smith's experiments.

In spite of the fact that injections of the coronary arteries of man have shown there are anastomoses between them and that they are not end-arteries.

It is problematical whether man would survive as does the dog, sudden occlusion of any large branch of the coronary system. In the few cases recorded of embolus to an otherwise healthy coronary artery, or thrombosis of a large branch but slightly affected by sclerosis, death has usually been sudden. These, however, are the very rare occurrences, for as a rule, occlusion occurs in a vessel, the lumen of which has already been slowly narrowed by sclerosis and one portion of a vascular supply, already distorted and made irregular by disease is suddenly shut off. Indeed, one is often amazed, in studying these cases of coronary sclerosis, at the reduction of the coron-

ary circulation, and the serious damage to the myocardium that is still compatible with life.

We must recognize, therefore, that the disease starts actually years before it is usually recognized. In a few cases, as the sclerosis increases insiduously, small branches of the coronary arteries are occluded and even thrombosis may take place until the damage to the myocardium is so extensive that the heart muscle at last is unable to carry on its work and symptoms of cardiac insufficiency supervene. As a rule, the appearance of these symptoms is rather sudden and unlike many other forms of heart disease, remissions are not common and the progress is rapidly downhill. In these patients there is no preliminary warning of the coming trouble, such as pain, and there may not be any distinguishing features to show that the myocardial insufficiency is dependent upon a diseased coronary circulation.

In another group, there are features of such special significance that the clinical picture has attracted the attention of many and especially through the excellent descriptions of Herrick, they have been made familiar to us. The onset of the alarming symptoms is sudden and though the duration of life is short, lasting but a few days or weeks in most cases, a few patients may recover. In this group, pain is a significant feature, and allusion has already been made to the type; and the frequency with which it occurs in the precordial area, radiating to the left side of the chest or in the epigastrium or upper abdomen. The intensity and situation of the pain on the epigastrium may even simulate such an acute abdominal condition.

The attack not infrequently follows a meal and as it may be associated with gaseous eructations or vomiting, is ascribed to some indigestible food. In many instances, the pain is constant and persistent. The patient is prostrated, frequently pale, sometimes slightly cyanotic; the skin may be cold and he may be sweating. The respirations are increased and there are usually rales at the bases of the lungs. The pulse is small and almost always rapid. In many instances, there is tachycardia which may be either persistent or paroxysmal. In the majority of these very acute cases, the blood-pressure is unusually low, and the systolic may be below 100. The heart is enlarged, the apex often difficult to locate, the sounds are faint, and if they are not too rapid, a gallop rhythm may be detected or a systolic murmur. Within a day or two of the onset, the signs of cardiac insufficiency make their appearance. Quite regularly, as has been emphasized by Libman, the liver is enlarged, and there is tenderness

over it. The rales in the lungs increases, fluid may accumulate in the pleural cavities, dyspnoea increases, the extremities become edematous. A very important sign indicative of acute infarction of the myocardium, is the appearance of a pericardial friction rub, often localized and sometimes transient. The importance of this sign has recently been well brought out by Gorham. During this period there is usually fever of 100 to 103 degrees and there is often a moderate polymorphonuclear leucocytosis. In its characteristic form, the symptom complex is so striking that it can be recognized without much difficulty. Death occurs, as a rule, within a few days to a few weeks, though occasionally patients with similar symptoms of moderate severity recover.

In the third group, the attack which has just been described is preceded for months or years by at least one premonitory symptom. This premonitory symptom is pain. It is often fleeting in character, sometimes mild, frequently occurs at irregular intervals, but partakes of the character of the pain that is experienced during the acute attack, and is most frequently induced by exercise or occurs after meals. In many instances, pain is the only premonitory symptom but in others, the pain is associated with slight breathlessness or other evidences of myocardial insufficiency.

It is in this group that an excellent opportunity is afforded for an early diagnosis, if we had the criteria at our disposal, and perhaps for the institution of preventive measures that might prolong the cardiac efficiency and the life of the patient. In a certain proportion of cases, the examination at this time shows some enlargement of the heart with perhaps a systolic murmur at the apex. The radial arteries may be palpable and there may be other evidences of peripheral arteriosclerosis. In a few instances the blood-pressure is elevated. A small proportion of patients give a positive Wassermann reaction, though this would cause one to suspect that the pain was connected with a syphilitic aortitis.

In a very fair proportion of patients, however, the most careful physical examination does not elicit any definite signs of disease of the heart, and it is in this group that it is most difficult to determine whether or not the myocardium has been damaged by interference with its blood supply, or if so, to what degree or extent the injury has progressed.

For a more accurate study of such cases, the electro-cardiograph has been employed and it has seemed from recent studies that significant changes may occur in some of the ventricular

complexes in angina pectoris and coronary thrombosis that are indicative of disease of the heart muscle.

Lewis found that ligation of a coronary artery in dogs was frequently and rapidly followed by single extrasystoles arising in one ventricle or the other. Within one to one and a half hours, there occurred rapid successions of ventricular extrasystoles producing attacks of ventricular tachycardia at rates of 300 to 420 beats per minute. In some instances, the ventricles went into fibrillations and the dogs died. Smith has repeated these experiments on dogs, ligating the ramus descendens sinister, the circumflex sinister, the coronaria dextra, and combinations of these three and has confirmed Lewis' observations inasmuch as he finds as an early effect of ligation of these vessels ventricular and auricular extra systoles which may be followed particularly after ligation of the circumflex artery by auricular flutter, ventricular tachycardia or ventricular fibrillation. He continued to study the animals that survived, and described a definite series of changes in the T wave that he considered characteristic of the effects of coronary occlusion. These consisted in an immediate marked exaggeration of the T wave with its foot point on the R wave and a change to negativity within the first twenty-four hours. Later, there was a gradual reversion to its positive position with a final isoelectric or negative position.

Since the publication of these experiments, electrocardiograms have been published from a limited number of cases which were proven to have coronary thrombosis at autopsy, or were diagnosed as such, from the clinical course of the disease, and in several instances the curves have conformed quite accurately with those obtained after experimental occlusion of the coronary arteries. Hermann reported six such cases with three autopsies. Electrocardiograms made in four cases, one of which came to autopsy showed ventricular tachycardia. Robinson reports four instances of ventricular tachycardia in one of which thrombosis of the coronary artery was proven at autopsy, while in the remaining three it was suspected.

Previously Herrick had recorded a case of coronary thrombosis with autopsy, in which electrocardiograms showed changes in the ventricular complex, and in the T wave that corresponded almost exactly to those reported by Smith, and Pardee later, published one case without autopsy, presenting the same type of electrocardiograms. Pardee felt that it was an electrocardiographic sign which is characteristic of coronary thrombo-



sis. Willius in a recent electrocardiograph study of 155 cases of angina pectoris, found eighteen cases or 11.6 per cent had the electrocardiographic alterations in the T wave described by Smith. In many other cases, abnormal electrocardiographic curves were obtained, and among these twenty-two cases had aberrant Q. R. S. complexes in all leads which conformed to the type obtained in animals or patients with bundle branch block. He, however, lays considerable stress on the significance of alterations in the T wave as an indication of myocardial damage.

A study of the electrocardiograms of nine of our cases that were proven at autopsy to have coronary occlusion adds rather inconclusive evidence to the cases that have already been published. In four cases there was auricular flutter. One of these patients had thrombosis of the descending branch of the left coronary artery, and was the man who was described as dying within nine days of the onset of his acute pain, the other showed thrombosis of the descending branch of the left coronary artery. All showed extensive lesions in the myocardium supplied by these vessels. In two of these cases the flutter ceased and the rhythm became normal before death. In none of them were there significant alterations in the Q. R. S. complex and in none were there changes in the T wave that corresponded to those described by Smith and others.

Two cases, both with thrombosis of the descending branch of the left coronary artery, showed electrocardiograms in which the Q. R. S. complex was distinctly abnormal. In its widening, in its small size, and in its notching in all leads, it presented the appearance which has been described by Oppenheim and Rothschild and others and which is considered indicative of a bundle branch block. In three cases, one of occlusion of the right coronary, one of occlusion of the circumflex branch of the left with partial occlusion of the right and one of thrombosis of the circumflex branch of the left, the electrocardiograms showed no significant abnormalities except those alterations in the deflections of the R wave that are indicative of left ventricular preponderance. It is obvious, therefore, that many cases of coronary artery thrombosis and occlusion may occur, without the production of ventricular tachycardia or the detection of those alterations in the T waves that are so frequently encountered after experimental ligation of these arteries in dogs. When these abnormal electrocardiograms are obtained they are undoubtedly a sign of value, but they may be absent in the most characteristic cases.

In conclusion, therefore, I may say that sudden stoppage of the circulation in one or the other coronary artery which is otherwise normal, probably leads to immediate or fairly sudden death, possibly from fibrillation of the ventricles.

Thrombosis usually but not invariably, occurs in arteries that are previously diseased and narrowed by sclerosis.

Occlusion either by thrombosis of sclerosis under these circumstances may be compatible with life for varying periods of time, though death when it comes is usually sudden. In a small group of cases, the disease pursues its course as a rapidly progressive cardiac insufficiency without features of particular note. But in the great majority of cases, there are significant symptoms and signs that frequently allow of a fairly accurate diagnosis. Most important of these are pain often with a particular radiation, the appearance of transient pericardial friction rubs, often associated with the acute onset of myocardial insufficiency and various forms of tachycardia and cardiac arrhythmia, all occurring in an elderly person usually without signs of valvular heart disease. Unfortunately, there does not seem to be anyone electrocardiographic sign that occurs in all cases.

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#### SYPHILITIC AORTITIS, A CAUSE OF SUDDEN DEATH\*

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The reason for this paper is that two cases of sudden death due to syphilitic aortitis have recently come to my attention and some features of them seemed to be worthy of being reported. In one case the man was sick enough to consult a physician, and the condition was strongly suspected, but he died suddenly before examination was completed and the condition was proven by autopsy. In the other case, the man had some

\*Read at Austin Flint-Cedar Valley Medical Society, July 20, 1921.

pain for which he consulted a physician some months previously, but he died very suddenly, and the condition would not have been suspected if a post-mortem examination had not been made. In both cases, the syphilitic aortitis had progressed to the stage of aneurysm formation, and death was due to rupture of the aneurysm. The reason I have chosen to consider this paper as syphilitic aortitis rather than aneurysm, is that the primary disease was syphilis, and aneurysm merely the final stage of the process. Ordinarily we think of apoplexy and heart disease as causes of sudden death, but syphilitic aortitis is quite as common.

I have endeavored to find definite statistics to give in regard to the frequency of its occurrence, but have not been able to get complete data on it. That it has been noticed, is evidenced by the fact, that Draper<sup>1</sup> in 1895 published a paper entitled "Sudden Death by Rupture of Thoracic Aneurysm Previously Unrecognized." DuBray<sup>2</sup> makes the remark, that in the experience of pathologists making post-mortem examinations of coroners' cases, ruptured aneurysm stands high in the list of causes of sudden death. The exact percentage of the population who are infected with syphilis no one knows. Schrumpff<sup>3</sup> quotes figures to show that 5 per cent of syphilitic males have changes in the organs of circulation, and over three-fourths of these are in the aorta. I am inclined to think his figures are too low, for syphilis is primarily a disease of blood-vessels, and being borne by the blood, the blood-vessels are infected through the vasa-vasorum. The aorta at the autopsy table is found more frequently infected than any other vessel, and it is most commonly affected in the parts nearest the heart. Senile aortitis is more common in the descending abdominal aorta. The pathological processes of syphilitic aortitis, as it involves the media of the aorta, beginning about the vasa-vasorum have been very carefully worked out and is specific for the disease. *Spirocheta pallida* has been isolated from the lesions by many reliable workers. According to Arnold<sup>4</sup>, in an analysis of 1829 cases, rupture was the cause of death in 53 per cent of cases. Death in the remainder of the cases, was due to pressure effects on surrounding tissues, as nerve, blood-vessels, or bones. From the vital statistics of the U. S. Census Bureau, it is found that diseases of the arteries stands eighth in the list of causes of death, causing 19,055 deaths out of a total of 1,068,932 deaths in the registration area during the year 1917. Apoplexy is sixth, with a total of 62,431, but unless the cause was proven in all cases by autopsy, many of these may have been due to a ruptured aneurysm, for most

physicians will give either apoplexy or heart failure as the cause of sudden death rather than ruptured aneurysm, and by necropsy it is found that over 50 per cent of ruptured aneurysms that are found, have been incorrectly diagnosed ante-mortem. Statistics thus show that over half of patients known to have an aneurysm die suddenly, and diseases of arteries stands high among the list of causes of death. Unfortunately, I have not been able to get figures to show the exact per cent of sudden deaths that are due to ruptured aneurysm.

A point I wish to emphasize is, that all writers are agreed that the most favorable time for treatment of syphilitic aortitis is early. When it has reached the stage of aneurysm formation very little can be done, but during the stage of atheroma, it responds to vigorous anti-syphilitic as well as any other type of syphilis. When one considers that it is a disease of the two best decades of life, thirty to fifty years, one realizes that it is a subject of more vital importance than cancer. Statistics are not wholly reliable, but most investigators have found positive evidence of syphilis in 60 to 85 per cent of all cases of aneurysm. Figures that have been collected, show that in fatal cases of syphilis, aneurysm occurs in 30 per cent, as shown by autopsy findings. Patients who receive inadequate treatment for syphilis, show up after a few years with definite evidence of aortic disease. I wish again to repeat the necessity of adequate treatment of syphilis early to prevent this common and incurable complication of syphilis. Power<sup>5</sup> reports the results of wiring, which is the only treatment that offers any hope at all. Sixteen cases were wired one or more times with only two patients living at the end of ten years. Some were relieved of pain temporarily, which is the thing they sought relief for, but several died within a few months of rupture, even though it was found at autopsy that the sacs had been filled with thrombi. One of the cases that came under my observation died of rupture suddenly, though the sac had spontaneously filled with a thrombus. Case reports follow. I am indebted to Dr. George M. Crabb for the findings in case 1.

**Case 1.** Mr. R.—Patient came to the office late in the evening so that a complete history and examination was not secured. This was on February 5, 1921. He complained of cough and shortness of breath on exertion. He had noticed that he had not felt well since Christmas, 1920. Soon after he entered the office he coughed, and it was the typical brassy cough of aneurysm. Immediately he was examined for tracheal tug and a very pronounced one was found. Temperature was 98.5. There was a unilateral swelling of the chest on the left side, but it was not pul-



sating. There was dullness on percussion over the left upper lobe. Aortic dullness was not increased in width. No thrill or bruit could be heard over the aorta. Under the fluoroscope, the aorta was seen to be definitely wider than normal, but no pulsating sacular enlargement could be seen. A provisional diagnosis of aortic aneurysm was made, and he was advised to return for a complete examination. He felt better the next day and he did not come back.

On February 8, just three days later, the coroner was called to investigate a sudden death. He found that this man had died suddenly. While dressing in the morning he had a profuse hemoptysis and bled to death. The necropsy findings follow.

The left lung has red hepatization. It is filled with blood, does not crepitate and cuts with increased resistance. The right lung crepitates anteriorly but posteriorly it is filled with blood.

The pericardial sac contains about 6 ounces of straw colored fluid.

The aortic valves are thickened and have yellow patches on them. The intima of the aorta is studded with yellow patches. There is a sacular aneurysm of the arch of the aorta where it crosses the left bronchus. This sac communicates with the left bronchus by an opening about one-half by three-fourths of an inch.

The remainder of the examination was negative.

The Wassermann on the pericardial fluid was positive, giving a four plus reaction.

**Case 2.** Mr. B.—The coroner was called early in the morning on June 13, 1921, to investigate the death of a man who was found dead in his garden. It was found that he had fallen backward while hoeing potatoes. There was no blood on the ground and no bleeding from the nose or mouth.

A good history could not be obtained, but it was learned that he suffered severely from neuritis over the left shoulder and the left side of the neck for about six weeks last autumn. He had never fully recovered from this neuritis, but it had not been causing him so much pain this spring. He worked in a brick and tile plant until February of this year when he was laid off, due to the plant closing down. He had been doing his own garden work all spring.

This death would have been reported as apoplexy if the coroner had not ordered an autopsy, the findings of which follow.

#### Necropsy Report

This is the body of an adult white male, approximately six feet in height and weighing approximately 175 pounds. The head is covered with dark hair streaked with grey. There is the usual posterior lividity of dependent parts but there are no other unusual marks on the surface of the body.

On opening the body the subcutaneous fat is found to have a thickness of one-half an inch in a mid-line incision at the umbilicus. There is no free fluid in the abdominal cavity. There are no adhesions and all abdominal organs appear to be normal.

On removing the sternum a mass the size of a

lemon is found about the great vessels of the neck beneath the right sterno-clavicular joint. There are no adhesions and no free fluid in the right pleural cavity, and the right lung appears to be normal. The left pleural cavity contains approximately three quarts of fluid and clotted blood. When this is removed the cavity is found to be free of adhesions, and the lung appears to be normal except for a mass the size of a lemon at the hilus.

On opening the pericardial sac the heart is found in firm systole. There are no adhesions or free fluid.

The structures of the neck are divided and the contents of the thorax reflected. On opening the trachea it is found to contain some tobacco but no blood at all. There is no redness of the mucosa at any place, and no increase of mucus. The esophagus and vena cava appear normal. There is moderate anthracosis of the tracheo-bronchial lymph nodes. The lungs crepitate well everywhere except the right apex which cuts with increased resistance and has some fibrosis.

On opening the heart, there is found the usual post-mortem clot in the right ventricle. The myocardium appears normal as do all the valves.

On opening the aorta the aortic valves appear normal but a marked atheroma of the aorta is found beginning immediately above the valves and involving the ascending aorta, arch and descending thoracic aorta more than the abdominal. There are many raised yellow plaques with depressed puckered areas between. There is no calcification. There is a sacular aneurysm of the innominate artery about the size of a small lemon, which communicates with the aorta by an opening about one inch in diameter. It is entirely filled with a laminated thrombus which falls out when the aneurysm is opened. The right subclavian and common carotid arteries arise from the sac. Another sacular aneurysm is found in the descending aorta at the level of the hilus of the lung. It is about the same size as the first one and its connection with the aorta is about three-fourths of an inch in diameter. Opening it, it is also found to be filled with a laminated thrombus. On the anterior surface where it comes in contact with the hilus of the left lung there is a rent about one inch long. The wall is thin as paper at this point.

The liver is normal in size and appearance. There are no scars on its surface and it cuts with no increased resistance. Cut surface is normal in color. The spleen is normal in size and has no scars or infarcts. Resistance when cut is normal and the pulp on the cut surface has a normal appearance. All the other abdominal organs appear normal.

Anatomic diagnosis: Moderate anthracosis of lungs and tracheo-bronchial lymph nodes. Slight fibrosis of right apex. Syphilitic aortitis with atheroma and aneurysm formation and thrombosis of aneurysmal sacs. Rupture of aneurysm of descending thoracic aorta with hemorrhage into the left pulmonary cavity.

Cause of death—Ruptured aneurysm due to syphilitic aortitis.

## CONCLUSIONS

Diseases of the arteries stands high in the list of the causes of death, and among these aneurysm is one of the most important.

Over half of patients known to have an aneurysm have died suddenly, and none of them have lived long after it was discovered.

Among the causes of sudden death, aneurysm stands high, and if all persons who die suddenly were examined post-mortem, a much greater incidence would be found for over half of aneurysms discovered post-mortem, have not been known to exist ante-mortem.

Aneurysms are due in a great majority of cases to syphilitic aortitis.

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## THE CAUSES OF FAILURE OF OPERATIONS FOR CHRONIC APPENDICITIS\*

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The removal of the appendix because of a diagnosis of chronic appendicitis is one of the most frequent procedures of general surgery. Because it can be easily and safely removed; it would seem that the operation should be followed by a cure in practically all cases; but the investigations of surgeons, who have carefully followed up their cases, show that the results can hardly be considered to be as satisfactory as it would seem they should be.

In 1916, Connell reported that among 212 patients operated on by him during the preceding seven years, there were forty-eight who failed to get relief of symptoms. He used the term, "pseudo-appendicitis" in connection with these failures, and especially warned against advising operation for chronic appendicitis in patients who had chronic constipation, enteroptosis and neurasthenia. Last year Gibson reported the result of his investigation of 555 cases, which had been operated on during the preceding six and one-half years. He received 426 replies to his letters

of inquiry. He divides the results into excellent, satisfactory and unsatisfactory; and finds that 102 cases should be reported as unsatisfactory.

I have had "follow up" letters sent to the patients operated on in the surgical service of the University Hospital during the years 1918 and 1919, in whom the diagnosis was chronic appendicitis. Patients who had other recognized pathological abdominal or pelvic conditions were not included in this list. The total number of cases was 121, and from these patients, we received 94 replies. I have divided these replies under the headings, cured, improved and unimproved; and find that sixty-six have been cured, twenty are to be classed as improved, and eight as unimproved. Among the improved, we include those who report themselves as better, but still having constipation, or vague pains at times or other indefinite symptoms. There were no deaths in this series, and no complication more serious than a stitch abscess, except in one patient, who developed a post-operative pneumonia, which ran a short and mild course. There were fifty-five males and thirty-nine females in this number, which is as it should be, since it has long been recognized that appendicitis is more common in the male. Among the cured, forty-two were males and twenty-four females. Among the improved, nine were males and eleven females, and among the unimproved were four males and four females, showing that the prognosis as to cure, has been much better in the male patients.

We have always regarded the history of a former acute attack as an important diagnostic point in chronic appendicitis, and we find that in our ninety-four cases, there were sixty-eight who gave a history of acute attacks at some previous time; and twenty-six who did not give such a history. Among the cured cases, fifty-two gave a history of an acute attack while thirteen did not. Among the improved cases, eleven had had acute attacks and nine had not, and among the failures, four admitted acute attacks and four did not. We learn from this that the prognosis as to cure, is much better when there is the history of a former acute attack.

In the operation reports, it is found that the appendix is described as definitely pathological in eighty-nine cases; and as doubtful or showing no pathological change in five cases; and of these five cases, one is listed in the improved column and four in the unimproved. This shows that nineteen out of twenty improved cases, and four out of eight of our unimproved cases showed pathological changes in the appendix, and still were not cured by the operation.

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In all patients who come to us complaining of chronic appendicitis, and where the history and findings are not completely typical, the diagnosis is practically made by exclusion plus the direct evidence of a diseased appendix. A patient without history of an acute attack, is regarded as atypical, and operation is not advised, unless the symptoms are very definite and characteristic. If the patient complains of gastric symptoms; while we realize that hyperacidity, pylorospasm and epigastric tenderness may be caused by chronic appendicitis, we do not admit it as the cause in any individual case until gastric analysis and x-ray series have been negative, and even then, we make an exploratory rather than the muscle splitting incision. It is now generally recognized, that chronic appendicitis bears an important etiological relation to gastric ulcer and cholecystitis, and we find them frequently co-existent. By observing these precautions, many gastric and duodenal ulcers and cases of cholecystitis have been found in patients with chronic appendicitis, and these cases are not included in this series, where, if the appendix only had been removed, they would have been found added to the number of failures.

In like manner, if there is anything in the character, location, or reference of the pain, which suggests the kidney or ureter as a possible explanation of the condition; we are not satisfied that a negative urinalysis excludes the kidney or ureter, but refer the patient for x-ray examination, cystoscopic examination and pyelography, if the urologist thinks it indicated. We realize that in chronic appendicitis, there may be found a slight increase in the number of leucocytes in the urine, but we believe that their presence puts the burden of proof on the appendix, and on the other hand, it is well known that pathology in the kidney or ureter, may produce symptoms, while examination of the urine, shows it to be normal. By referring such patients to the urologist, even in the presence of normal urine, we have been led to refuse operation for chronic appendicitis in several cases, where if the appendix had been removed, we would have had to add to the number of failures. \*

In dealing with pronounced neurotics, it is often difficult to come to a definite conclusion as to diagnosis. It is perfectly true, that a neurotic patient may have chronic appendicitis, but on the other hand, such a patient, by complaining of vague pains, perhaps especially located in the right, lower quadrant, and accompanied by an indefinite tenderness, may easily lead one to make a diagnosis of chronic appendicitis, when it is not

present; and again, the removal of a chronically diseased appendix in a patient who is decidedly neurotic, is very likely to disappoint in the amount of improvement which follows, and may fail to give any relief whatever. Operations for psychic effect have long since proven their worthlessness. Patients with mucous colitis, even if they have pronounced tenderness, in the region of McBurney's point, will generally fail to be benefitted by an appendectomy, and this also applies to patients with marked visceroptosis.

In the cases reported as improved, it is difficult as a rule, to explain why recovery has not been complete. Constipation is complained of by many of these patients, and it is possible that in some of them, it was the cause of the appendicitis, and that the removal of the appendix has naturally failed to relieve it. In others, it is possible that being somewhat neurotic, they are bothered by the scar enough to complain of pain. In others, there are undoubtedly accompanying minor conditions, such as moderate enteroptosis, pelvic displacements, etc., which still causes some discomfort; and in some cases, adhesions may be the explanation for incomplete relief.

Gibson has noted a very marked improvement in his results recently, and is impressed by the fact, that this improvement has occurred since iodine was discontinued in the preparation of the patient. He now uses 5 per cent picric acid in 95 per cent alcohol, and believes, that although its antiseptic action is as strong as tincture of iodine, and its penetrating power as great, it is less irritating to skin and peritoneum, and that peritoneal adhesions are not nearly so likely to occur following its use as a skin antiseptic. The report of such a reliable observer, should carry considerable weight, and we have recently begun the use of picric acid in the preparation of the abdomen for laparotomies.

After a careful study of the hospital records of the eight failures, we have concluded that three patients had gastric ulcers at the time of the appendectomy, and that this accounts for the failure in these three cases. They were males with gastric symptoms and findings on gastric analysis or x-ray examination, which pointed to ulcer. Exploratory incisions were made in these cases; and ulcers could not be demonstrated at the time of operation. Following our rule, which is not to make a gastroenterostomy unless distinct evidence of pathology is found in stomach or duodenum, we only removed the appendices in these cases, one of them being distinctly pathological, and the other two doubtful. The persistence of the symptoms has convinced us that the

ulcers are still making trouble. We are still of the opinion, that the proper treatment in these cases, where the ulcer is probably present, but cannot be demonstrated, is to remove the appendix and advise medical treatment of the ulcer, hoping that the removal of a diseased appendix, which may have caused the ulcer, will aid in obtaining a medical cure. We do not think that a gastroenterostomy should be lightly undertaken in the absence of evident pathology, because in such cases, it is likely to do more harm than good. In one male patient with gastric symptoms, but negative x-ray and gastric analysis findings, an exploratory operation failed to show any pathology in gall-bladder, stomach or duodenum, but did show a very evident chronic appendicitis, for which the appendix was removed. The patient reports that he is still having the same symptoms. We feel that he may have a gastric ulcer or a strawberry gall-bladder, which was not recognized at the time of operation.

One patient was a hysterical girl, whose badly diseased appendix was removed without benefit to her. The explanation of a failure in her case, is the hysteria. One female patient had a pronounced visceroptosis, and the only pathology found in the appendix, was a kink at its middle. The appendix was removed, but no improvement resulted, nor was it to be expected. In one female patient, with a typical history, in whom a diseased appendix was removed through a muscle splitting incision, no improvement followed, and we are at a loss to explain the failure, unless it be, that additional pathology was present in the abdomen, and was not discovered, because a muscle splitting instead of an exploratory incision was made.

In another female patient, where a diseased appendix was removed through an exploratory incision, we are not able to account for the improvement being so slight as to cause her to be listed among the failures.

After a careful study of this series of cases, we must admit that the results of operation for chronic appendicitis in our hands, are not satisfactory, and that there is considerable room for improvement. In attempting to secure better results, we believe that the following points are of great importance.

1. These patients should have more careful examination, and often more prolonged observation, especially if the condition is not in every way typical.

2. No patient should be regarded as having typical chronic appendicitis unless a history of a former characteristic, acute attack is obtainable.

3. Extra care and consideration should be used before advising operation in neurotics, especially those with colitis or visceroptosis.

4. More exploratory incisions should be used in preference to the muscle splitting incision, and always in atypical cases, and the exploration should not end with the discovery and removal of a diseased appendix.

5. Believing that a considerable amount of trouble complained of after operation, may be due to adhesions, we regard the suggestion of Gibson as valuable, and will try out picric acid instead of iodine in the preparation of the site of operation.

#### Discussion Dr. Rowan's Paper

**Dr. Oliver J. Fay,** Des Moines—I am very strongly of the opinion that more real benefit comes from the analysis of our work and a free and frank confession of the failures, than can come from any other discussion, and this is particularly true as regards the subject of appendicitis. It is now some thirty-three years since the appendix was first attacked by the surgeon, since the diagnosis of an infection of the appendix was first made and an operation planned for its removal. During these thirty-three years, the technic has been developed to such an extent that the mortality from laparotomy for the removal of a chronic appendix is practically nil, as Dr. Rowan has shown in his series of cases, in which he had no deaths. The trouble, I think, as exemplified in this report on Dr. Rowan's patients, is that while operation does not fail to cure their appendicitis, in many cases it does fail to cure the complications which existed along with the appendicitis. As an example, the hysterical girl may have an acute appendix; appendectomy will cure the appendicitis but not the hysteria. And that is one of the things we should all be very careful about—not to overlook the fact that the neurotic patient, like any other, may have typhoid, may have pneumonia, may have an acute appendix, but removal of the appendix, or recovery from pneumonia will not cure the hysteria. This accounts for some of the failures following appendectomy. In three of Dr. Rowan's cases there was evidence of gastric ulcer, which would probably not be cured by removal of the appendix. It would seem to me that Dr. Rowan has established a very safe foundation when he rules out of the category of chronic appendicitis all cases which do not give a history of an acute attack. Did I understand this correctly, Doctor?

**Dr. Rowan**—I said that a patient without the history of an acute attack is regarded as atypical, and that operation is not advised unless the symptoms are definite.

**Dr. Fay**—If the appendix is the cause of the trouble, in other words if the diagnosis of appendicitis is correct, removal of the appendix should cure that particular condition. If there is a chronic appendicitis plus a neurosis, or plus any one of the various



pathological conditions of the bowel which are commonly termed colitis, appendectomy will not necessarily relieve the complicating or associated pathological conditions, and the end results will not be what we had hoped. There is now no excuse whatsoever for doing an exploratory operation until a definite diagnosis has been made, or—let me put it another way—until a thorough attempt has been made to reach a definite diagnosis. Twenty years ago it may have been justifiable to open the abdomen, look about to see what one could find, and, fortunately for the surgeon, the appendix was usually present and its removal would justify his fee. The thorough work which has been done on Dr. Rowan's cases points the way to elimination of most of the failures which come from operating on an incorrect diagnosis; the cooperation of the medical department with all its varied activities, and the enthusiastic appreciation by the chief of that department of the value of personal analysis and observation has reduced failures to the minimum. I believe that if all possible care is taken to rule out all the various conditions which Dr. Rowan has enumerated, and the diagnosis of chronic appendicitis is reached only after this process of exclusion, our failures following appendectomy will be less. In regard to the use of iodine, I am not so sure. It seems to me that there were quite as many failures in the old day when soap and water only were used as there are with the use of tincture of iodine. If there is any virtue in the use of picric acid in so far as the prevention of post-operative adhesions are concerned, then I am heartily in favor of its use.

**S. A. Spilman, Ottumwa**—This is an important question for discussion, because if you cannot find anything else the matter with the patient nowadays you generally can find something wrong with the appendix, in your mind. The one particular point in this paper that should impress us is the importance of taking a little more time to investigate our cases; not send a case of supposed chronic appendicitis to the hospital to be operated the same night, but take our time.

**Dr. John F. Herrick, Ottumwa**—I want to emphasize possibly a little more the condition of visceroposis as a cause of pain, leading us in some instances to believe that a chronic appendicitis is present. More failures have come to my attention in which there is a ptosis than from any other one cause. You may know that there is a ptosis, and yet not be certain that this is the cause of the symptoms. If you put your patient to bed for three or four days and the symptoms disappear, you may almost certainly figure that the condition is not chronic appendicitis, and then, by careful examination, in a large majority of these cases you will find that you have a ptosis, proper care of which will relieve the patient and cure the supposed chronic appendicitis without operation. Therefore where differential diagnosis cannot be made it is well to give those patients rest for a few days and thus help to eliminate a condition that is not due to the appendix.

**Dr. Donald Macrae, Jr., Council Bluffs**—First let me say that I would very much dislike to have the members go away from here with the idea that in a case of acute appendicitis we should not rush into the abdomen and operate at once, but wait until the next day. We all know that acute cases should be rushed in and operated immediately. There is no doubt that many lives are saved by immediate operation provided the case has been properly diagnosed. I am not talking about visceroposis or gastric ulcer, but about the acute gangrenous appendix. If I see one of these cases in the night I operate before daylight, and I think that is the proper thing to do. Therefore I do not wish the impression to go out that we will wait for people to die as I fear may be gained from the doctor preceding me. The cases of which Dr. Rowan speaks belong to the chronic type—the type that bothers us, the indefinite abdomen, in which we throw up our hands immediately on hearing the history, send for x-ray pictures and gastric analyses. The roentgenologist is at a loss and sends us word that he thinks the condition is probably appendicitis, with the result that we perhaps take the appendix out following the advice of the x-ray man, which I think is wrong. You should make thorough physical examination, at the conclusion of which, if you have experience, you will know whether or not the condition is appendicitis. Then you should seek to verify your findings through laboratory and bacteriological reports, but do not let these influence you to a point beyond your own common sense. Have respect for the opinion of the laboratory man, the bacteriologist, etc., but do not let their reports sway your best judgment in the case. Referring to the muscle-splitting operation, the essayist states that in certain classes of cases he will make exploratory incision, and in another class do the muscle-splitting operation. I want to say that I have never been able to be dead sure even in a case of acute appendicitis just what complications we might find. The fact of having had several cases in which gastric ulcer complicated the situation, led me to determine several years ago that the muscle-splitting operation should not be done. When we have a chronic condition of the appendix we should make our incision in such a way that we can examine the stomach, tubes, ovaries, etc. In an acute case that occurred a number of years ago I was up against one of these muscle-splitting operations, having to do a considerable amount of mutilation of the abdominal wall before I got out; since then I have abandoned the procedure. The rectus muscle separation is ideal in every way.

**Dr. F. L. Nelson, Ottumwa**—In regard to the acute appendix, I do not think there is any question but this should be operated on very promptly. However, the acute condition should not be considered in connection with the paper under discussion. When Dr. Spilman spoke of proper investigation of the case, he, of course, referred to chronic appendicitis. Failure in our cases of chronic appendicitis is invariably a question of diagnosis. In any case that

has never had an acute attack I do not think you will find a great amount of trouble in that appendix. It is rather an unusual thing. The question of viscerop-tosis, which is very important, has been well brought out by Dr. Herrick. A short time ago we had occasion to discuss this problem together in a case in which we were associated. The patient had been away from work for six weeks, with no improvement, although he had never had an acute attack. His case had been very carefully worked out, then we operated on him and secured result, which is rather unusual with these indefinite symptoms where only an appendectomy is done. One more point in connection with differential diagnosis is your history. One case was operated on for chronic appendicitis—no result. On taking a careful history it was found that this man had had a fall several years previously, ever since there had been pains on his right side and very typical over McBurney's point. Some enthusiastic surgeon operated on him without giving the history due consideration. It was found that he had a slightly prolapsed kidney on the right side. He was cystoscoped and ureter catheterized and after some manipulation the catheter was passed through the ureter. The patient was promptly cured. In other words, he had a kink in the ureter. If that had been done in the first place he would not have lost his appendix.

**Dr. Rowan**—I think Dr. Fay and myself are very well agreed in our idea of the dependence of chronic appendicitis on acute attacks. I believe that in practically every case where we find a real chronic appendicitis, that appendix has at some time been acutely inflamed, and I would have put it a little stronger in the paper except for the fact that I have quite frequently found in an appendix at the time of operation such gross pathology as to indicate that the patient certainly must have had an acute attack at some time, and still the most careful questioning of the patient failed to bring out that history. So we might still think that the acute condition had been present in practically every case of chronic appendicitis, and yet this cannot be brought out in the history. Some of these conditions date back to childhood, in which event they were considered to have some gastrointestinal disturbance instead of an acute appendicitis. I am glad to have had Dr. Macrae refer to the necessity of differentiating between chronic and acute appendicitis when we speak of delay in making a diagnosis. I would be very sorry to have the impression go out that I advocate delay in any case of acute appendicitis—delay because of waiting for the report of a laboratory test or any other report. In every case of acute appendicitis I believe that when the diagnosis is made, or even a probable diagnosis is made, we should advise operation and do it just as soon as possible. In my paper I have tried to emphasize one point which I believe might aid us in avoiding poor results—that more frequent exploratory operation should be done. As to muscle-splitting incisions; I have not yet come to the conclusion of Dr. Macrae that in every case an

exploratory incision should be made, but it is quite likely that I may join him in that decision before a great while. The greatest amount of dissatisfaction that we should have in the summing up of these cases is in regard to the fact that there is a large number of cases in which a cure has not been obtained, but only improvement. Those are the unsatisfactory results we should strive to account for.

## VINCENT'S ANGINA AS SEEN IN CIVIL PRACTICE\*

J. E. ROCK, M.D., Davenport

### History

The object of this paper is to call attention to and emphasize the importance of Vincent's Angina in our work in civil practise, since there is no doubt that the late war has increased its prevalence.

I do not propose to give an exhaustive review of the disease, but simply to record some observations, personally made in a small way, and to present some ideas given us by older observers who have had a much longer field to work in.

The disease was first described by Professor Vincent in 1898, and bears his name. At that time it was considered of importance because of the liability of its being mistaken for diphtheria. This is still true and added to this factor is the increased prevalence since the war, and the fact that it may be overlooked or forgotten.

### Etiology

The disease is bacterial in origin having for its causative agent the fusiform bacillus and the accompanying spirillum, the accepted theory being that the latter is an evolutionary step of the former.

The cultural characteristics will not be considered in a paper of this length, excepting to say that the organisms can be obtained by a direct smear in the majority of cases.

Vincent's Angina can be transmitted in ways similar to other such diseases. Direct contact, drinking cups, towels, improperly sterilized instruments in dental and medical offices, and numerous other ways are responsible for its travel.

However, as in most such diseases our patients tell us they have no memory of association with persons who had any obvious disease; or of having eaten away from home, and try as you may you cannot find a satisfactory explanation for their being afflicted. In our case records two of our patients gave a history of having recently had

\*Presented at the Iowa and Illinois Central District Medical Association.



some dental work done, both of them having consulted a dentist in regard to some third molar trouble.

There are two possible explanations here, namely: Vincent's organisms dormant under these third molars, or poor aseptic technic on the part of the dentist.

Exciting causes can be briefly cared for by: oral sepsis, poor care of the teeth, dental caries, excess tobacco, poor surroundings, poorly nourished individuals, and unsanitary conditions.

#### Lesions—Their Locations and Appearances

The lesion is described as a heavy, dirty membrane covering the tonsils. This is by no means constant as the patches may appear any place on the naso-pharyngeal or buccal mucosa, and absence of tonsils is no guarantee against an attack of Vincent's as one of our most severe cases was in a nurse who had had a clean tonsillectomy.

The disease may manifest itself in dark yellow spots on the tonsil, usually showing an excavated or depressed center, covering an area that is so necrotic that gentle pressure will often take a cotton tipped applicator into the tissue for a considerable distance.

In other cases, the first complaint is "sore gums," really a mild gingivitis, the teeth feeling too large or too long, while in one case the first complaint was of a tongue that was very sore and swollen. Along the margins of the tongue, inferiorly, were severe, angry looking areas covered with the rather constant dirty yellow deposit and marked by extreme tenderness when touched. This rapidly extended until the tongue was three times its normal size and very sore. In this case there was but one spot on the right tonsil.

The gums soon show a thick, whitish-gray deposit which can be readily brushed off and under which the tissue is very red and bleeds easily, and is extremely painful.

The lips do not always escape, and lesions similar to those already described may cover the whole extent of both upper and lower lips. The membrane may extend downward into the respiratory tract and is then exceedingly difficult to handle.

We have been interested particularly in Vincent's Angina as a mouth and throat infection, but in passing it may be well to mention that the disease is not limited to this area as cases of labial ulcers, balanitis, or the "fourth venereal disease" and gastro-enteritis caused by Vincent's organisms are on record.

#### Symptoms

For a paper of this length and in a rather limited field we did not attempt to classify our patients into age, sex, nationality, etc., simply desiring to mention some of the outstanding features, sufficing to say they were all young adults.

Each one of our cases had symptoms at the onset which would fit with an attack of acute follicular tonsillitis, and here is where I think I have an excuse for this paper, as the clinical picture is so clear for tonsillitis that some might be tempted to consider it as such without looking further.

These symptoms of headache, backache, when coupled with complaints about the teeth and gums, and tender cervical glands should make one look further. From the above symptoms there is nothing very definite that would lead anyone to look for an unusual condition except the two factors of gingivitis and glandular swelling with tenderness.

On examination the general condition strikes one as being that of a person who is sicker than the ordinary case of tonsillitis, the lips are frequently covered with blisters, sordes, and there is an odor from a real case of Vincent's that is characteristic. It is the heavy, fetid smell of decayed tissue.

On opening the mouth the teeth are always unclean because the gums are so sore and tender it is impossible to brush them. There is also the thin grayish deposit on the gums. It is not infrequent to find many carious teeth, or a mouth filled with bridges and crowns.

The buccal membrane may be involved as is also the palate, sometimes. The tonsils if present practically always have the yellowish spot, or larger membrane on them. This membrane, especially on the tonsil, is very friable and easily removed, after which there is not much bleeding. One case developed an enormous peritonsillar abscess.

#### Smear and Culture

In every case of sore throat or sore mouth, a smear and culture should be taken, because no one should make a clinical diagnosis when he can get laboratory help. The best place to make a smear for Vincent's is down behind the third molar teeth. This will give a positive smear where all other places fail.

#### Wassermann

Syphilis can and does of course, co-exist with Vincent's and the Wassermann test should be made if the smears are negative, and in cases which do not respond readily to treatment.

In a series of fifty-six cases reported by Reck-

ord and Baker in the Journal A. M. A. of December 11, 1920, page 1620, fifty-one cases gave negative Wassermann reactions, a proportion which could be expected among almost any fifty-six individuals chosen as these were.

#### Surroundings, Habits, Etc.

In our cases there was no one living in real poor surroundings and the only interesting facts was a physician's office nurse, and another was an usher in a large theatre. They gave histories of recent dental work.

#### Differential Diagnosis

In the typical cases the diagnosis is fairly easy from the clinical appearance, but a good rule to follow in all throat and mouth infections is to make a direct smear and culture.

(a) *Acute Follicular Tonsillitis*, probably the most common condition in the throat varies so greatly in its clinical appearances that we may be tempted into a hurried diagnosis and it is especially confusing since the onset of so many cases of Vincent's is accompanied by the systemic manifestation that marks the onset of tonsillitis.

(b) *Diphtheria* is a membranous condition, is usually more continuous than Vincent's, is not the yellowish color often seen in Vincent's, is tenacious and bleeds when removed. It is not accompanied as a rule with the tender sub-maxillary swelling. The laboratory report will clear any doubt.

(c) *Syphilis*—Since syphilis can simulate any condition it must always be borne in mind, in cases which respond slowly or not at all to treatment, a Wassermann reaction should be speedily done.

(d) *Aphthous Stomatitis* may be confusing, but it is usually characterized by the presence of small slightly raised spots two to four millimeters in diameter and surrounded by reddened areolæ—usually confined to the inner surface of the cheeks and edges of the tongue.

(e) *Ulcerative Stomatitis* is important because of its tendency to break out as an epidemic—the process begins at the margin of the gums, the ulcers are covered with a grayish-white membrane, and salivation and difficult mastication attend the condition.

(f) *Thrush, Gangrenous Stomatitis, and Ptyalism* may be merely mentioned in passing.

#### Treatment

From the point of view of our patients this is the most important part of any disease. And the fact that there are so many advocated and highly recommended treatments for Vincent's Angina is proof itself that no one is entirely satisfied.

However I am adding to the already long list, since I have not heard it mentioned heretofore.

In Vincent's as in other infections, the treatment resolves itself into prophylactic and curative. In regard to prophylactic treatment, cleanliness and care of the teeth is all any one can do, and all physicians and dentists know aseptic technic.

*Curative*—Salvarsan, intravenously and locally are highly recommended. Record and Baker in Journal A. M. A. of December 11, 1920, recommended a solution of 0.6 grams of arsephenamin in 2 fluid drams of glycerine. Thorough cleansing and drying of the parts and a direct application of the arsenical mixture, rubbing it in well. They also recommend a 2 per cent solution of chromic acid applied locally.

Silver in various percentages is used, concentrated iodine solutions, methylene blue, and various other remedies.

I desire to add carbolic acid as the agent which has given us best results. A 1 per cent solution used in a dental or chip syringe or even an atomizer. This is sprayed directly on the part affected using force on the syringe. In a day or so or even the next day it is increased to a 2 per cent solution and in one case we started with a 2 per cent solution. It is quite pleasing to note the way an angry sore mouth will clear with this treatment, how pain will leave and the condition improve. The longest time it has been necessary to treat cases this way has been six days and this was an extremely violent case. The shortest was three days.

Potassium chlorate 1 to 5 per cent can be used as a mouth wash together with the spraying of phenol, but it usually causes too much pain. Silver nitrate 6 per cent can be used, but is not of much avail.

Forcing fluids, catharsis, and general treatment are the same as in any infection. After recovery thorough dental examination and correction is absolutely necessary, and I think I should strongly recommend the extraction of the offending third molar teeth.

#### Conclusions

1. The prevalence of Vincent's Angina does not seem to be thoroughly recognized.
2. Distinct relationship between the disease and dental caries.
3. Region of third molars is habitat of choice of the organisms.
4. Spirochæta in bacteriology.
5. Necessity of smear and culture from all mouth and throat cases.
6. Good results with phenol sprays.



## THE HOSPITAL AND LABORATORY AS AN AID IN DIAGNOSIS AND TREAT- MENT OF DIABETICS\*

E. L. ROHLF, M.D., Waterloo

I have not chosen this subject for the purpose of demonstrating any superior knowledge, for I haven't it, but rather to provoke discussion and profit thereby, and to illustrate how patient and physician may both be more comfortable, by receiving accurate data upon which to base intelligent and helpful treatment.

It is an admitted fact that rarely if ever does an individual showing both urine and blood sugar ever develop a normal intolerance for carbohydrates. Therefore every patient who comes under our observation and care, showing urine or blood sugar, or both, immediately becomes an object of constant study for the physician. With three objects in view; 1st, the finding by quantitative tests, from twenty-four hour specimens of urine, how much sugar is excreted in twenty-four hours—also the glycoemic content of the blood under his usual dietary. Second, finding the patient's carbohydrate tolerance, by allowing known quantities of food, having a known carbohydrate value, and even using the starvation diet for such period of time as will make the patient sugar free, then gradually adding known quantities of carbohydrates to his diet until sugar reappears in the usual reaction tests; then feeding a little below this known quantity of sugar forming foods.

Important during this laboratory and dietary study period, that we should constantly keep a record of the diacetic acid content in the urine as an indicator of the functional reaction of the patient in response to the dietary treatment, or disaster might occur in the form of acidosis. Third, educating the patient during this laboratory period, as to the effect of diet, the value of proper diet, and how to combine different foods to procure the proper estimated amounts of sugar forming foods, proteins and fats, to make up the required calories necessary to produce sufficient energy and heat, and maintain the proper weight of the patient. This educational process must continue practically during the life of the patient, unless unusually intelligent and well able to control his cravings for unallowable food, the better informed a patient becomes, the better he will be able to care for himself. As diet is the only protection a diabetic has, the value of educating him becomes emphatically important to you all. It adds to his comfort and longevity, and protects

against dangerous complications which lurk in the wake of the disease, and frequently terminates the life of the individual.

It is unnecessary perhaps, but I want to emphasize the fact that every diabetic is emphatically a hospital case, in a hospital with proper laboratory facilities and in charge of an accomplished technician until such time as a proper basis for diet has been worked out.

Few, if any, offices are equipped for carrying on this important work—I want to admit at this time that I am not a laboratory technician, and depend entirely upon the data procured by our hospital laboratory for a basis upon which to build my treatment for my patient. And I want to say this, that the careful study of each case is a post graduate course on this particular type of disease, until one has become thoroughly familiar with all the details.

To emphasize the necessity for hospitalization of these cases, I want to give you the statistical result in percentage of deaths in the treatment of diabetics in the Massachusetts General Hospital during the period of from 1913 to 1918; 1913, 30 per cent; 1918, 2 per cent. This one hospital alone furnishes sufficient evidence for my plea for hospital treatment for diabetics. All hospitals may not arrive at so low a mortality, but certain it is that more efficient service can be rendered, and innumerable lives prolonged, and be made much more comfortable while they do live.

We must admit that the general care of the diabetic is far from perfect, but the efficient and diligent study of such men as Allen and Joslin and others will continue to produce valuable information which we may use for our unfortunate patients.

Some authors make a distinction between urinary diabetes and diabetes mellitus, the differentiation being in the quantity of blood sugar present when sugar is also present in the urine—when blood sugar remains in normal quantity in the blood, it is not a true diabetes mellitus, even though sugar be present in the urine. Blood sugar also furnishes a basis for prognosis in that the higher the percentage the more serious, and vice versa. The laboratory furnishes our only means for obtaining this knowledge. Also, we must remember that the blood sugar content may be abnormally high before it can even be demonstrated in the urine. An important factor I had nearly neglected to mention in the education of a diabetic patient is to teach him any of the usual tests for sugar, that he may be able to constantly control his own condition.

\*Read before the Austin Flint-Cedar Valley meeting, July 19, 1921, Clear Lake, Iowa.

## SUMMARY

1. Hospitalization of patient important.
2. Quantitative laboratory investigation of urine and blood.
3. Finding the carbohydrate tolerance and establishing the proper dietary to meet this tolerance and remain sugar free.
4. Educating the patient as to food value, percentage combinations, and the importance of dieting.
5. Teach him the ordinary tests for sugar and furnish him the necessary re-agents.
6. Teach him the ordinary rule of hygiene which he must observe.
7. Impress him with the fact that he is practically his own medical observer, dietitian and technician. He being the greatest gainer—in that he will avoid complications, increase his comfort and add years to his life.

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MENTAL MEASUREMENT IN RELATION  
TO MEDICINE

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REUEL H. SYLVESTER, PH.D., Psychologist, Des  
Moines Health Center

The greater part of this paper will necessarily have to be devoted to description and interpretation of mental measurement. This must in turn be prefaced by a brief discussion of psychology which is the general science of which mental measurement is a concrete application.

The word "Psychology" is shamefully overworked and misused. For several years it has been the prey of charlatans, fourflushers, bluffers and ignoramuses until at sight or sound of it we are more likely to be disgusted than interested. There seems to be no end of magazine articles, books, lectures, and advertisements on the psychology of religion, psychology of advertising, psychology of adolescence, psychology of dreams, psychology of the strike, psychology of salesmanship, psychology of health, psychology of childhood, and the hundreds of other similar vague titles that force themselves upon us. The climax certainly has been reached, however, in the now prevalent question, "What is the psychology of this situation?" or, "The psychology of this act?" or "The psychology of that man?" these questions being offered merely for the sake of conversation, just as we will in talk about the weather.

But there is a genuine psychology, a real science that is of such importance and such genuineness that I am proud to have the privilege of presenting an aspect of it before the medical society. I only ask that my hearers clear their

minds of all rubbish that masquerades under the name of psychology, and that they understand the reader to be discussing a science that is as limited in its field, as genuine in its methods and as reliable in its results, as are the sciences of chemistry, physics and biology.

The history of psychology dates back only about a half century. It is in that comparatively short time that we have discovered that certain mental functions, and perhaps the whole mind itself can actually be measured. We know little, perhaps nothing, as to what mind is, but that need not deter our measuring it and handling it scientifically any more than ignorance of what electricity actually is, need make it unmeasurable or unusable. The modern psychologist does not care whether mind is matter or distinct from matter or a product of matter. He leaves those problems to the philosopher.

Measurement of mind began with the measurement of reaction time. We still say a thing happens quickly as thought, meaning thereby that it happens instantly. As a matter of fact we now know that there are several things that happen much more quickly than thought; that it takes a measurable length of time for a brain cell to act and for a thought or nerve impulse to pass from one part of the body to another. It was from this measurement of reaction time that other mental measurements sprang. Now vision, audition, and other senses are measured in well established methods in practically every psychological laboratory. It has also been found that memory can be analyzed and measured. Other mental functions and processes are now measured, in fact during the past fifteen years psychologists have plunged boldly ahead on the assumption that any mental process can be measured and that the only problem is to isolate and to devise measuring methods.

Such measurements are all in the direction of analysis of mind and measurement of isolated processes. General psychology has not yet balanced and evaluated the various processes in anything like a satisfactory way, so while able to measure many of them we are not always able to interpret the results and to make them of diagnostic value. For instance, we do not know how much weight we should give the results of memory tests as compared with results of sensory tests, neither are we certain that our tests of memory are complete or properly balanced for evaluating that one special function. Psychologists have been partly unsuccessful and partly negligent in the study of emotions. Although the emotional aspects of consciousness are of the greatest importance in studying mental diseases,



the psychological laboratory has developed very few tests and measurements that are helpful. Nearly all of the present devices and tools are for a study of the knowing, with little consideration of the feeling. For that reason laboratory psychology has been somewhat of a disappointment to the psychiatrist who has developed his methods, largely from the point of view of symptoms of mental disease, which are largely noticeable as feeling aspects. Since psychology has not yet completely analyzed mental processes and weighted and correlated them, mental tests and measurements are lame when it comes to evaluating the total of results in terms of a general estimate of intelligence.

Because of the incompleteness of the analytical tests that we have just been discussing and because of the reliability of statistical methods, psychologists have most recently given considerable attention to the developments of measuring scales of general intelligence. In these scales there is not a visible analysis into the various mental functions. Questions and tests of memory, reasoning, imagination and other processes are simply thrown together and measured as a whole.

The most valuable of all such scales is the one devised by Alfred Binet, a French psychologist. I shall not at this time go into details of the history of these tests, interesting though it would be to trace them from their first crude form through the various revisions and to their present form.

For use with individuals who do not see, hear and speak perfectly, or who for some other reason cannot be tested fairly by the Binet scale, performance tests have been devised. They involve the use of puzzles, form boards and other devices of various types. These performance tests are valuable but none of them are nearly so reliable as the Stanford-Binet scale.

Lately there have been developed several group tests for testing several individuals at once. They demand an entire paper, so I only mention them here.

So much for psychological tests themselves. Tests are not the main part of a mental measurement. They are only devices, accessories, and their results need interpretation in the light of case history, general mental behavior and a full knowledge of the individual. The examining psychologist must bring to focus on the case all of his knowledge and experience with mental phenomena.

It would be absurd for a physician to attempt to diagnose on the basis of laboratory and clinical tests alone. He has many valuable tests at his command but like psychological tests they are

for the most part merely devices. This is especially true of functional tests. It is hardly possible to measure accurately the functioning of the glands and organs but there are many functional tests that help greatly as diagnostic accessories. Psychological tests are functional and must always be so considered. One cannot measure so complex and subtle a function as mind in anything like the same way that he can measure such static quantities as height and weight.

Therefore psychological examinations and mental measurement must take into consideration family history, developmental history, home and environment report, school history, and general physical examination reports. This rather wide variety of information is necessary, and besides the psychological test results, which were discussed earlier in the paper, a number of general questions must be answered by the individual and his performance observed in the solution of puzzles and complex problems and unusual situations—none of which are included under standardized tests.

All these are evaluated and interpreted in the light of the examiners knowledge of psychology and his experience as an examining psychologist. Final results are usually stated in terms of very superior, superior, average, inferior, or very inferior intelligence with supplementary statements as to what mental weaknesses and strengths have been revealed.

The foregoing explanation of mental measurement and the discussion of methods are intended to clear up the situation so that we may in a final paragraph discuss directly the topic of the paper, Mental Measurement in Relation to Medicine. This relation is essentially that of other special laboratory relations. The results of a mental measurement should contribute to a physician's diagnosis and handling of a case in much the same way that x-ray findings, Wassermann test results and other laboratory results contribute. Usually however, the mental measurement does not reveal a disease or an acute ailment of the mind. It gives the physician exact information as to the grade of intelligence and the type of mind with which he is dealing. This is fundamental to his understanding of causes, present condition and treatment, and involves considerations that are all too frequently overlooked.

This is the reader's conception of mental measurement's relation to medicine. His experience and observation convince him that many patients may be better understood and their treatment more effectively prescribed if among the special tests and examinations that are made mental measurement is included.

## PRESIDENT'S ADDRESS\*

CHARLES RYAN, M.D., F.A.C.S., Des Moines

Members of the Missouri Valley Medical Association: I wish to thank you individually and collectively for the honor which you conferred upon me in Des Moines one year ago, and to assure you of my earnest appreciation of that honor and the gratification I feel in being given the opportunity to serve you. It has been a real pleasure, and one which will live long in my memory. I wish to thank you also for the cooperative spirit shown by the officers and members in general, and to express my highest appreciation to Doctor Lord, the members of his committee and the members of the Douglas County Society who have made this splendid meeting possible. We are glad to be with you here in Omaha today, and we will be pleased to come again.

At this time I purpose a brief resume only of some of the more important things that have to do with a subject in which we have been greatly interested during the past few years.

The practice of medicine carries with it certain duties and obligations to humanity in the ever present problems which present themselves in our struggle with abnormalities and diseased conditions to which the human being is heir. These numerous duties and obligations when analyzed can be expressed in one word—"Service." The interrelationship of all civilized people, irrespective of class or vocation, demands in their associations many actions, deeds, words and thoughts which can be classified either as a private or public service. We, as practitioners, in the art and science of healing have only our time, attention, care and application of our knowledge with which to serve the community.

The Golden Rule does and should express the moral standard of the medical profession today and tomorrow unchanged. The scientific standard and the art of medicine is ever changing for the betterment of all concerned. The medical profession, together with its allied institutions; the hospital, the dispensary, the free clinic, the public health service, the nursing associations, the research workers, the experimental laboratories, etc., are untiring in their efforts to reach the height of efficiency, are eager and ready to adopt any and all accredited measures, and methods which better equip them to attain the results desired in the prevention, alleviation and cure of disease. Again I will state that the sum total of all the thought, time, energy, efforts and applica-

tion of all these amalgamated institutions of medicine, either in time of peace or war, can be given expression in the one word "Service." We are the servants of the public, engaged in the practice of medicine and surgery, and as such we enjoy one of the greatest of God given privileges; if then, service be our lot, let the service given be of the most approved and highest type, giving always the best that is in us. To do this, it is a part of our obligation to the commonwealth to accept and discharge our full duties in citizenship, in social life, in political life and in business life, as well as in professional life; to hold ourselves ready and willing at any and all times, not only to endorse but to do all in our power for the success of any project which has for its purpose the betterment of humanity. In this connection I wish to remind you today of a movement in our own profession, which if you will give to it due consideration and earnest thought, will I am sure, enlist not only your endorsement but also your enthusiastic support. I refer to the necessity and object of standardization of the medical practitioner, the medical school, the hospital and all kindred institutions. Over a decade past, the American Medical Association saw the necessity of reform and through its efforts countless poorly equipped and sub-standard medical schools ceased to exist, thereby putting an end to numerous diploma mills. All agree that this was a move in the right direction. We are cognizant of the fact however that many of our most efficient and capable men in the medical profession today spent their student days, and graduated from schools which by reason of standardization have ceased to exist. These men, however, possessed the in-born initiative and ability which by close application and hard work brought them up to the high standard of efficiency required at the present time; and it is many of these same men who are now the most ardent supporters of this great movement for standardization. With the raising of the standards, entrance requirements, etc. of medical schools fewer men are being graduated in medicine today, but these men after a hospital service are, as a body, much better educated, better equipped, and better trained in the fundamentals and principles of medicine than those who have preceded them. As a result of this standardization, the ranks of the healers and charlatans have been greatly augmented by those who shun the rigors of real preparation. The answer to this situation is that the contrast will strengthen the medical profession and that the graduate of the medical school will stand the test of time, while the healer and charlatan will fail.

\*Medical Society of Missouri Valley, Omaha, Nebraska, September 6, 1920.



Hospital standardization through the efforts of the American College of Surgeons, the American Hospital Association, the Catholic Hospital Association, the American Medical Association and the medical schools, etc., has become a reality. The standard of requirements has been adopted in numerous hospitals in many of the states and is converting more institutions daily to the value and necessity of such standards as are required. The fundamental elements of this work as given by Franklin Martin are

First—The patient.

Second—The doctor who treats the patient.

Third—The equipment and intelligent administration.

Fourth—Adequate nursing facilities.

Fifth—Diagnostic laboratories in charge of a practical laboratory man.

Add to these fundamentals

(a) The service of resident physicians in number according to the capacity of the hospital.

(b) The keeping of complete case records.

(c) Regular monthly meetings of attending staff to discuss and cooperate with the superintendents, and trustees in everything which has to do with the service given in the institution. I am sure you will agree that these requirements are for the best interests of the patient and community in general.

These rules and regulations are not alone for large hospitals with a large attending staff, but as Crile has stated, "The standardization that is in our minds here today is not the standardization of the great institution. High scientific service in a hospital does not necessitate a large number of beds; it means merely that if a hospital has but one patient, and one member of the staff, if the member of staff gives that patient a fair show and square deal in the way of intelligent treatment, the hospital will meet any standard which we may properly set up. The patient must have the advantage of good nursing." In the hospital problem of today, Hornsby says: "No hospital can be better than its medical staff, and no medical staff has the right to expect evaluation of its abilities higher than the prima-facie evidence at hand in the equipment and in the methods employed in the workshop in which the work is done. We all know institutions elaborate in architecture, great in size, and rich in endowment, that are mere boarding houses for the sick; and we know that in many of these institutions the medical staff is mediocre, without ambition, energy or enterprise, we all likewise know small isolated institutions far out in the country, small in size, poor

in worldly goods, and almost without equipment, or funds with which equipment may be bought, whose service to the sick is of a high scientific order and in which the sick man, woman or child may have at his need the best that modern medicine offers."

In our daily routine hospital work, we must realize and accept our responsibilities in teaching and training interns and nurses, as well as assistants, for these young people must take the reins of active duty and render the service when we shall have passed along, and we should grasp every opportunity to assist them in obtaining the knowledge which is to serve them well in their professional career. In keeping with the standardization of the institutions referred to, it is the opportune time for the organization of well equipped and well appointed post graduate schools of medicine and surgery, where the purpose is to furnish a more thorough course of study to those wishing to avail themselves of it. It is a deplorable fact that in the past the majority of post-graduate schools have been markedly inefficient in their methods; have been organized with too much the purpose of commercialism, and they should be brought up to an efficient standard, that they may justly deserve the patronage they enjoy. Through the correct avenue is coming hand in hand with standardization of medical schools, hospitals, etc., the standardization of training schools for nurses, requiring better preliminary education, raising entrance requirements, etc., for the young women who elect nursing as a profession.

We must personally strive to interest and enthruse the members of directory boards, trustees, etc., of our local institutions, as well as the public in general in this great movement, which when instituted gives the patient (be he rich or poor) first consideration in our thoughts and in our efforts to return him to his usual activities and vocation in life in the shortest time possible with the minimum amount of pain and discomfort, as well as expense during his hospital experience.

Standardization has for its object the best possible care for the sick and maimed from every viewpoint, and as such should stimulate us into putting forth our strongest efforts to see its adoption universally; as charity begins at home, so also does standardization. We must first of all standardize ourselves individually and measure up to that standard, not only to the standard which we set for ourselves, but better still, we should measure up to the standard which we set for the other fellow.

# The Journal of the Iowa State Medical Society

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## THE ECONOMIC POSITION OF HERNIA

For several years the relation of hernia to accident and injury has been well established in the minds of surgeons of experience, and yet, there were points of contact not quite determined which could be utilized by those having to deal with the question in a practical way. The term "traumatic hernia" had been misleading. One surgeon would say that he had never seen a case. Another would say that traumatic hernia was very rare, still another would say that a hernia with a sac was not a traumatic hernia. All these statements were quite true but did not meet the serious problem of the true relation of hernia to accident and injury. It could not be denied that a hernia with a formed sac, did sometimes appear as the result of a severe injury or strain; that a hernial tumor did sometimes appear under such circumstances, where no tumor existed before, producing a period of disability and entitling the injured person to compensation, a fact admitted by compensation boards, corporations, and others. There was also a larger class of hernias which existed before the accident, and had no relation to injury, and which slipped back and forth freely without pain. These cases were not entitled to compensation. It had become important, therefore, that some well defined rule should be adopted that would draw a distinct line between compensable cases and non-compensable cases, and by which a fair and reasonable compensation might be measured. That some authoritative state-

ment should be made, the Medical and Surgical Branch of the American Railway Association appointed a committee to report on hernia, with Dr. Wm. B. Coley of New York as chairman. After two years' investigation and consultation, the committee made its report at St. Louis, May 22, 23, 1922. It will be seen that not only is the question of traumatic hernia considered, but the vastly more important subject of hernias associated with accident and injury, and entitled to compensation are taken up in a fair and judicious manner, which should be of immense value to workmen's compensation boards, corporations and claimants. We believe, furthermore, that this report will be of material aid to the medical profession in determining the question of damages in hernia cases. The question of hernias is of immense importance to industries which are frequently called upon to pay large damages for hernias which existed before the alleged injury occurred, indeed, before employment was secured. The hernia problem had been considered in European countries some years ago, but this report is a purely American product and should escape prejudice.

## NEUROPSYCHIATRIC PROBLEMS WITH DISABLED VETERANS

As every one knows there has grown out of the late war thousands of disabling conditions acting to impair in greater or lesser degree the economic efficiency and independence of ex-service men. To minister to their needs there has been created by the Federal Government the United States Veterans' Bureau with its fourteen district offices, each embracing certain states of the Union. The functions of the United States Veterans' Bureau are mainly three; first, to provide adequate medical care and treatment for the disabled ex-service man; second, to afford them where eligible and feasible vocational training leading to their industrial rehabilitation, and, third, to adequately compensate in money those for whom treatment has not resulted in recovery and where the disability is such that vocational training is not feasible. As will be seen the United States Veterans' Bureau has been given the responsibility towards the disabled ex-service man which was formerly divided between the United States Public Health Service, the Bureau of War Risk Insurance and the Federal Board for Vocational Education. To discharge this enormous responsibility a large organization has to be built up, each district being practically in charge of its own problems working in decentralized manner from



the central office in Washington. This organization includes clinics, and hospitals with their social service allies, special schools and supervision of universities and colleges wherein training is carried on. Our state comes within the territory known as the ninth district, including Missouri, Kansas, Iowa and Nebraska. The district headquarters, with Mr. M. E. Head as district manager, are located at 6801 Delmar Boulevard, St. Louis. There are fourteen sub-district offices located at St. Louis, Kansas City, Springfield, Poplar Bluff, and Chillicothe, Missouri; Wichita, Salina and Topeka, Kansas; Des Moines, Cedar Rapids, Waterloo and Fort Dodge, Iowa. At St. Louis and Kansas City, Missouri, Colfax and Knoxville, Iowa, are large hospitals; and at St. Louis, Kansas City, Omaha and Des Moines large out patient clinics. Any one of these branches will gladly supply information concerning the Bureau's purposes and work, as will the district manager to any interested persons.

As will be seen by the foregoing brief setting forth of the Bureau machinery the work deals with disabilities resulting from injury or disease and is therefore fundamentally medical. It has been noted with some alarm that a large portion, fully one-third, of all disabilities are of nervous or mental type—neuropsychiatric. The alarm and concern arises from the difficulty inherent in the handling of men with disorders of the nervous functions. To accomplish things it is primarily essential that there be a personnel of adequately trained neuropsychiatrists and it has been brought to the editor's attention that the Bureau experiences considerable difficulty in obtaining the services of such men. From time to time there are opportunities open in the neuropsychiatric section of the Bureau for men with the proper training to work as special examiners or on a part or full time basis. The work itself is of vast interest, opening up as it does a practically untried field in the application of neuropsychiatry to the solution of industrial, vocational and economic problems. Neuropsychiatrists are particularly desired at this time and any with the training are requested if interested to communicate directly with the district manager, Mr. M. E. Head, 6801 Delmar Boulevard, St. Louis, for further information.

Graduates of Drake University School of Medicine, College of Physicians, Keokuk Medical College, all of whom are now alumni of the University of Iowa College of Medicine will hold class reunions at the 1922 commencement of the university, when many of them will make their first intimate acquaintance with their new alma mater.

#### PROVIDING FOR AN INCREASE IN NUMBER OF RURAL DOCTORS

We are informed by Virginia Medical Monthly that a bill has been introduced in the legislature of Virginia authorizing the College of Medicine and Virginia University to offer two scholarships from each congressional district which shall entitle the holder to tuition in the department of medicine of each institution and to \$250, annually.

The bill provides that the scholarships shall be assigned, after competitive examination, to the two persons in each congressional district making the highest grades. The bills give each institution twenty scholarships.

It is further provided that each of the students after graduation shall practice medicine for a period of not less than five years in the rural section of the congressional district from which he or she was appointed, and if the person violates the agreement to practice medicine in the rural district after graduation, authority be vested in the University of Virginia and the Medical College of Virginia to collect by law such amount as the student has received from the scholarship.

Each bill appropriates \$5,000 for each of the years ending February 28, 1923, and 1924, to carry out the provisions in each measure.

#### DIVISION OF FEES

It is sincerely believed that the secret division of fees among the better class of physicians and surgeons in the Middle West has largely disappeared. But that this practice still exists among a considerable number of commercially inclined there is abundant reason to believe. To guard against a revival of this illegal practice the executive committee of the Missouri State Medical Society adopted the following resolutions:

Whereas, It is reported that some members of our Association are practicing the secret division of fees in order to obtain patients, which practice is a violation of the by-laws of our Association and of the Principles of Medical Ethics, therefore be it

Resolved, That the Councilor of each district is hereby requested to warn the members of each county society in his district against such practice and that the component societies be notified that the executive committee warns them against permitting this practice among their members; be it further

Resolved, That the executive committee bring this matter to the attention of the Council at the annual meeting in May, 1922, for further action against such societies that fail to discipline their members for such violation of the by-laws and of the Principles of Medical Ethics.

### FOWLER'S SOLUTION

The British Medical Journal for January 21, 1922, publishes a historical account of the introduction of Fowler's Solution in the treatment of ague.

Towards the end of the eighteenth century a secret patent specific against ague was popular in Berlin, and these tasteless ague and fever drops came into vogue in England and were occasionally used from 1780 to 1783 at the General Infirmary of the county Stafford, where Fowler was physician and a Mr. Hughes the apothecary.

In October, 1783, Hughes told Fowler that he had found that the active constituent of this secret remedy was arsenic, and that he had made up a solution of arsenic to take its place; this substitute was tested and compared as regards its effects on patients. In 1786 Fowler published a pamphlet of 128 pages on its effects.

### REPORT OF THE SPECIAL COMMITTEE ON TRAUMATIC AND INDUSTRIAL HERNIA

#### American Railway Association, Medical and Surgical Section

Dr. W. B. Coley (Chairman), Chief Surgeon, New York Central Railroad.

Dr. Southgate Leigh, Chief Surgeon, Virginian Railway.

Dr. J. B. Walker, Surgeon, Pennsylvania Railroad.

Dr. C. W. Hopkins, Chief Surgeon, Chicago & Northwestern Railway.

Dr. J. A. Hutchison, Chief Medical Officer, Grand Trunk Railway System.

New York, April 10, 1922.

To the Medical and Surgical Section:

The Special Committee on Traumatic and Industrial Hernia, which was appointed as a result of action taken at the last meeting of the Section, has held meetings on October 11 and October 26, 1921.

The Committee has made a very careful study of this most important subject and as a result has prepared the attached treatise which it is believed will be of real value in handling cases of this nature.

#### Action Recommended

That the report be approved for inclusion in the Proceedings.

Respectfully submitted,  
Special Committee on Traumatic and  
Industrial Hernia.

#### Exhibit A—Traumatic and Industrial Hernia

The great increase in Social Legislation in recent years has made the subject of Traumatic Hernia one of vital importance to every industrial organization.

The first Workmen's Compensation Act was

passed in Germany in 1884. Similar laws were soon adopted in Austria and later in Denmark, Norway and England.

In 1916 thirty-three states and territories in the United States had enacted some form of Workmen's Compensation Act and since that time other states have been rapidly following the lead. Therefore, traumatic or industrial hernia, at first largely, a question of theoretical interest, has become one of great practical importance. In spite of this, there has been no definite attempt made to standardize our knowledge of traumatic hernia, particularly as regards its etiology.

In the recent past the question of compensation has too often rested upon the power of the plaintiff's attorney to stir the emotions of the jury rather than upon a carefully weighed judgment based upon a knowledge of the facts relating to the origin of traumatic hernia.

The time has now come when these cases are being gradually taken out of the hands of emotional juries—the members of which, no matter how fair-minded, are naturally lacking in the technical knowledge of the etiology and pathology of hernia—and being passed upon by experienced physicians. Therefore, it is of greatest importance that all of the facts bearing upon the etiology of hernia should be collected and classified and made readily available.

The term, "traumatic hernia" has been used in a very general way to include first, the small group of cases in which the hernia is due to direct violence; second, an occupational hernia, or perhaps, as better classified by the French, "hernia of effort," which includes all of those cases in which the hernia appears during heavy lifting, slipping, falling, coughing, sneezing, or any cause whatever which increases the intra-abdominal pressure; and third, "hernia of weakness" which is due to abnormal or defective development of the abdominal wall at the various hernial sites.

The first group of cases is so exceedingly rare that it may be disposed of in a few words. In true traumatic hernia due to direct violence the tissues must have been punctured by some more or less sharp object which has forced its way at least through the muscles and fascia, if not quite to the peritoneum. Coley has never seen a case of true traumatic hernia. He has known of one treated by one of his colleagues; the muscles about the inguinal canal were torn by the horns of a bull and a hernia developed shortly after. So this group of cases can be practically ruled out of consideration. The third group, hernia of weakness, due to congenital weakness of the abdominal muscles or weakness through disease, causing atrophy of the muscles, is also very rare, as weakness alone without the presence of a preformed congenital sac, rarely results in a hernia no matter how great the intra-abdominal pressure. These are practically all of the direct type.

The very large group of cases which is ordinarily designated as traumatic hernia and which should be



more properly called occupational hernia, or, better still, hernia of effort, furnishes the basis of nearly all of the medico-legal or compensation cases of hernia. The word "rupture," the old English name for the disease hernia, is responsible for the traumatic theory of the origin of hernia so widely held by the laity as well as by many medical men who have given but little study to the subject. This theory gained a foothold before operation for the radical cure came into general use and before the etiology of hernia was generally understood. With the rapidly increasing knowledge of the subject derived from a very large number of operations that have been performed in the last quarter of a century, our ideas of the causes of hernia have gradually changed. At present it is almost universally recognized that the all-important cause of hernia of all varieties is the presence of a pre-formed sac of peritoneum known as the processus vaginalis. This view was held by two noted surgeons of the eighteenth century, Pelletan and Cloquet, but only in recent years did Russell of Australia, by his patient investigations, force us to conclude that practically all herniæ are of congenital origin, due to this open pouch of peritoneum which has existed since birth. Unfortunately, courts and juries and compensation laws here and abroad have not kept pace with the developments of surgery and it is still not unusual to see large damages awarded in cases of so-called traumatic hernia. Russell maintains that an acquired hernia does not exist and recognized authorities on hernia have come to agree with Russell's conclusions.

Prior to the adoption of the Workmen's Compensation Acts there were a considerable number of medico-legal decisions in cases of so-called traumatic hernia both in Europe and in America. Many of our compensation boards have simply followed along the lines of decisions handed down by European courts. Sheen (Practitioner, London, 1909), who has made a careful study of the subject of traumatic hernia in England, states that "the arbiter in these claims, in the mass of ill-understood technicalities, following the lines of least resistance, has given judgment in favor of the workingman—the post hoc ergo proper hoc view being naturally considered the easiest one."

In Switzerland a person suffering from a hernia and desiring compensation is entitled to indemnity only on the following conditions: (1) It must appear suddenly; (2) it must be accompanied by pain; (3) it must be of recent origin; (4) there must be proof that the hernia did not exist prior to the accident.

In Germany, in order to establish a claim, the sufferer from hernia must have had an examination within forty-eight hours of the accident; the hernia must have appeared suddenly, must have been accompanied by pain and must have immediately followed some accident. Proof must be furnished that there was no hernia prior to the accident.

While there are no published records showing the results of the New York State Compensation Board, Sellenings, through the courtesy of a medical of-

ficer of the commission, has obtained certain important data. The commission thus far has considered traumatic hernia as extremely rare. The opinion was ventured that it occurred in possibly one of ten thousand cases. Commenting upon these statistics, Sellenings states:

1. "Traumatic hernia is but a surgical curiosity and assumes no practical importance. 2. Only a small number of the cases have been carefully investigated. 3. A great proportion of the cases seem to be relegated to the convenient classification of 'vocational hernias.' Whatever may be said of the attitude of the New York Commission applied equally well to many other sections of the country."

One of the most recent and on the whole judicial discussions of the subject Traumatic Hernia, or, as the author terms it, "Compensable Hernia," is contained in a book on "Industrial Medicine and Surgery," by Harry E. Mock (Assistant Professor of Industrial Medicine and Surgery at Rush Medical College), published in 1919.

Mock calls attention to the fact that "the decisions of established medicine date back to the precompensation days and were based on the testimony of expert authority made in the courts of England especially, and later in our own courts, to the effect that a traumatic hernia could only occur from a direct violence resulting in a definite tearing or rupture of the abdominal wall. All other hernias were claimed to be due to congenital defects, preformed sacs, and were similar to all other diseases which might occur coincidental with occupation but not related to it. Such testimony was sustained by practically every court and their views were considered as the decisions of established medicine." He states that, naturally few claims for traumatic hernia were made, although employes in those days, just as frequently as at the present time, blamed their work for the condition.

The greatly increased number of claims for compensation for hernia at present, he regards to be due partly to the new attitude on the part of industry in the direction of recognition of certain moral obligations as well as the realization that any improvement in the condition of employes render them more useful and more efficient. He states, that among broad-minded employers, the question of whether there was such a thing as traumatic hernia for which they could be held legally responsible, caused little concern. "They were not governed by the decision of established medicine nor of established law but based their decisions upon a just and good business sense. If they employed a man with a hernia they knew the industry was not responsible for it. If it grew gradually worse without any definite accident or excessive occupational effort it was due to natural causes and again they were not responsible. But, if as a result of accident or severe strain this hernia became strangulated, at once doubt as to responsibility entered the case and the decision was, therefore, rendered in favor of the employes. If they hired a man who showed no sign of rupture at his employment exam-

ination, but who later suffered an accident or a severe occupational strain and as a result the hernia appeared, compensation and free surgical care were given, because in the man's mind the accident caused the trouble, and because they recognized that to a certain extent the occupation was contributory to the final development of the condition.

"From the standpoint of efficiency, it was found that a man with hernia was about 25 per cent less efficient than the man without one. Therefore, these concerns might refuse to employ men with a rupture but they became more and more liberal regarding the repair of such a condition when it developed in an old employee."

Mock states that, "Such was the attitude of several concerns at the time of the passage of the employes' compensation acts. In fact those very laws were an expression of this new humane influence which had entered industry. The administration of these acts were placed in the hands of industrial commissions whose members were laymen rather than lawyers. Influenced by the generous attitude of certain industries, and guided by this sentiment and a consideration of moral rights, combined with their meager legal knowledge, the decisions of these various commissions were often at variance to those rendered by the courts in the past.

"Thus employes began to seek compensation for many conditions which heretofore had not been considered compensable, and included among these were hernias which developed during employment."

Mock states, "The question of traumatic hernia, therefore, simmers down to three considerations:

1. "A proper definition of what is meant by traumatic hernia.

2. "To what extent must an accident or an occupational hazard which only partially contributes to the development of a condition be held responsible for same.

3. "In which cases should compensation be paid by the employer."

Mock fully agrees with our own opinion and that of practically all surgeons who have had much experience with hernia, that hernias as a result of direct violence are very rare. He states that many of the best authorities have enlarged the scope of traumatic hernia so as to include these cases which result from the indirect application of force causing greatly increased intra-abdominal pressure. This adoption of a broader definition, however, Mock believes would mean the inclusion of many additional hernias in the compensable group, thus greatly confusing the question. We believe it would be much better to restrict the name of traumatic hernia to the very small group limited to direct violence.

Other types of hernia for which the occupation is more or less responsible, are described by Lotheissen and other writers as "accidental hernia."

Mock has personally observed only five cases of true traumatic hernia due to direct violence at the point where the hernia developed. He cites these five examples as follows:

- (1) "Man struck in the right groin by the sharp end of a crow-bar; (2) a brakeman was crushed between the bumpers of two cars and a ventral hernia appeared; (3) a man was running through the aisle at fire drill and struck his left inguinal and scrotal region against a truck handle. A large contused area, swelling and hemorrhage into the scrotum immediately followed. Within three days a definite left direct inguinal hernia appeared; (4) a pregnant woman was kicked in her left lower abdomen by her husband and very shortly a ventral hernia appeared and naturally increased in size as pregnancy developed; (5) a cowboy came to my clinic with two enormous oblique inguinal hernias. He gave a history of some two years previously having had a horse he was riding rear and fall over backward, pinning him beneath the saddle. The pommel of the saddle had crushed into his lower abdomen. Immediately there was bulging in both groins and these continued until they had reached the present size. The man denied any sign of rupture previous to the accident."

In at least the fifth case of Mock's series (enormous double oblique inguinal hernias) it would seem almost certain that there must have been present congenital sacs, or rather, an early stage of hernia on both sides prior to the accident, and the enormous increase in intra-abdominal pressure in this case further developed the pre-existing condition. Mock himself admits that, "It is quite evident that even in those cases of inguinal hernia following direct violence, some doubt will always exist as to the possible presence of a congenital predisposition for hernia." He very truly affirms that, "Industrial commissions all over the country are depending on the surgeons in industry to arrive at a just and equitable decision concerning this subject of compensable hernia."

Mock believes that, "The first essential is to make a careful physical examination of all employes and to record those who have real or potential hernias. Whenever a hernia develops in one of these employes who was recorded not to have a hernia a careful analysis of his case must be made to determine (1) Was it entirely due to pre-existing defect? (2) Was it entirely due to some severe direct or indirect violence? (3) Was a latent condition already present and only aggravated by the unnatural occupational hazard? (4) Was it due entirely to natural causes? (5) Or was it due to a combination of all of these, and if so, which was the most responsible?"

Mock admits that, "The great majority of hernias develop slowly, 'the gradual dilatation of a preformed sac.' The congenital defect or predisposition is the chief cause for such hernias and the relation of natural occupation or of the natural acts of ordinary life are immaterial in their formation. These correspond to the gradual development of 'flat-foot,' a result of faulty shoes, constant standing and walking or other natural causes; or to the development of tuberculosis in employes engaged in occupations which in no wise predispose to this condition."



MacCready, the greatest English authority on hernia, states that an acquired hernia is never due to an accident or single increase of intra-abdominal pressure.

Graser, one of the highest German authorities, states that a hernia complete in all its parts can never arise at the moment of accident or by a single increase in the intra-abdominal tension be it ever so great.

Moschowitz of New York, who made a very careful study of hernia in relation to the Workmen's Compensation Act (Med. Rec., Apl. 3, 1915), concludes: "Traumatic hernia is exceedingly rare. It may occur in any part of the abdomen, but usually not at the site of the normal hernia openings. Workmen's Compensation Commissions are not and can not be acquainted with all the facts relating to hernia. This is evidently the sphere of the medical profession; the Workmen's Compensation Commission should be required to place implicit reliance upon the decision of established medicine. In cases of appeal from the decision of the Commission, all the medical part of the testimony should be given by experts of the court's selection, and not of the selection of the claimant or defendant."

A fact particularly emphasized by Hopkins is that the great majority of hernias in industrial practice, particularly in railroad work, are found in foreigners, and nearly all in men who have not previously passed a physical examination. One of the reasons why they occur more frequently in foreigners is, we believe, the fact that the class of foreigners engaged in the lower grades of railroad labor are, as a rule, either undernourished at the time, or went through a period of under-nourishment during childhood, which tended to lessen the normal development of the abdominal wall. Another reason for the higher percentage of hernias in foreigners, particularly those coming from Russia and southern Europe, may be found in the practice so widely prevalent among these people, of trying to produce artificial hernia in order to escape army duty. Doctor Gerster of New York called attention to this factor many years ago, and recently, at the Hospital for Ruptured and Crippled, Doctor Huguot observed a double direct hernia, regarding which the man stated he had produced it himself. The method of production was: Taking a hard, slightly blunted stick, placing it over the inguinal canal and then striking moderate blows from time to time with a mallet until the muscular structures in the neighborhood of the canal are torn or pushed to one side and finally a hernia develops. Here again we must observe that it does not occur as the result of a single blow or single injury; it is only the repeated blows with this more or less sharp instrument that finally produces such a weakness as to cause a direct hernia to follow.

Of all the attempts made by the different State Commissions to solve this vexed problem of traumatic or industrial hernia, the industrial commissions of Nevada and California stand out as most in accord with our present knowledge of the causes

of hernia. The following is a ruling of the California Industrial Commission:

"The consensus of medical and surgical opinion runs to the effect that hernia is very rarely, in any proper sense, the result of an accidental injury, that the accident is at best no more than the occasion instead of the cause of the malady; that the origin of the difficulty is congenital and more in the nature of a disease than an injury; that every claim for compensation based upon an alleged rupture is to be viewed with suspicion."

The Nevada Commission rules:

"Medical science teaches now what it has taught for the past twenty years and is now accepted as a medical and scientific truth, corroborated as such by the foremost surgeons and anatomists in the world; that is, that hernia, or so-called rupture, is a disease, ordinarily developing gradually, and is very rarely the result of an accident."

The following rules have been promulgated by the Nevada Commission:

"Rule I. Real traumatic hernia is an injury to the abdominal wall (belly wall) of sufficient severity to puncture or tear as under said wall and permit the exposure of protrusion of the abdominal viscera or some part thereof. Such injury will be compensated as temporary total disability, and as partial permanent disability, depending upon the injured individual's earning capacity.

"Rule II. All other hernias, whenever occurring or discovered and whatsoever the cause, except as under Rule I, are considered to be diseases, causing incapacitating conditions or permanent partial disability and the causes of such are considered as shown by medical facts to have either existed from birth, to have been years in formation, or both, and are not compensatory, except as provided under Rule III.

"Rule III. All cases coming under Rule II, in which it can be conclusively proved, first, that the immediate cause which calls attention to the presence of the hernia was sudden effort or severe strain or blow received while in the course of employment; second, that the descent of the hernia occurred immediately following the cause; third, that the cause was accompanied or immediately followed by severe pain in the hernial region; fourth, that the above mentioned facts were of such severity that they were noticed by the claimant and communicated immediately to one or more persons are considered to be aggravations of previous ailments or diseases, and will be compensated as such for time or loss only, depending on the nature of the proof submitted and the result of the local medical examination."

The Committee is entirely in accord with Rules I and II of the Nevada Commission. It, however, calls attention to a serious conflict in Rule III of the second proof, which must be given in order to establish a right for certain compensation. Rule II states specifically that by medical facts it is shown that a hernia either exists from birth or is years in formation; whereas, in the second proof of Rule III

it speaks of a descent of hernia occurring immediately following a strain or blow. This assumes that hernia may be the result of a single increase of abdominal pressure which the Commission in Rule II stated to be impossible.

Many writers state that a recent hernia is tender and painful on manipulation, and ecchymosis is not infrequently present. This statement is frequently found in text-books and particularly in articles upon Traumatic Hernia. We believe it has no basis in fact. In an experience of thirty-one years at the Hospital for Ruptured and Crippled, where we have an average of 5,000 new cases a year, there has not been a single case of recent hernia which was "tender, painful and accompanied by ecchymosis" in which there had been a history of antecedent injury or accident of any form. We have seen a number of cases that were attributed to an injury, and we are of the opinion that the patients honestly believed that the injury was the cause of the hernia; yet the size of the hernia ring, the thickness of the sac, with adhesions to the surrounding structures, all proved beyond the shadow of a doubt that the hernia was of long standing, although probably not previously recognized by the patient. A recent case, only observed in October, 1921, is a very good illustration of this point: A man, twenty-five years of age, employe of the New York Central Railroad Company, with a history of never having had any swelling whatever in the region of the hernial canals, shortly after heavy lifting noticed a swelling in the right inguinal region. He came to the Emergency Hospital of the N. Y. C. R. R. Co., where the attending surgeon found a well-marked inguinal hernia, the size of a small egg, in the right inguinal region, extending well into the canal and upper scrotum. In the opinion of the surgeon, this was one of the most definite cases in his experience pointing to a casual relationship between the strain and the hernia, and it might have been so regarded had not the patient consented to an operation. On October 14, 1921, Doctor Coley operated and found a preformed sac undoubtedly of congenital origin, extending well into the upper scrotum,  $2\frac{1}{2}$  inches long and 2 inches broad, considerably thickened, firmly adherent to the overlying cremaster muscle. The nature of the sac clearly proved it to be of congenital origin and in all probability the hernia itself had existed for months or possibly years, although the patient may never have recognized it until the time of the unusual strain, when a somewhat larger amount of omentum or bowel was forced into the sac, causing slight pain which first called his attention to the hernia.

Hernia is practically always due, first, to the presence of a preformed sac or open pouch of peritoneum which, in the inguinal variety, follows the testis in its descent into the scrotum, which pouch has failed to close in the normal way; and, second, to the presence of structural weakness in the neighborhood of the hernial orifices due to poorly developed muscles or fascia. Given these all important anatomical

causes which are in themselves sufficient in many cases to constitute a potential hernia, the actual hernia may develop by reason of a great variety of exciting causes; among these may be mentioned the daily increase in intra-abdominal pressure incident to the ordinary routine of life, e. g., straining at stool, coughing, sneezing, lifting, etc. The main point that can not be emphasized too strongly is that the hernia is never the result of a single strain or single increase in intra-abdominal pressure due to any of the causes mentioned; on the other hand, it is the cumulative effect of a great number of strains spread over a considerable period of time. In nearly all cases hernia is of gradual onset, and is rarely accompanied by pain, and most frequently remains unnoticed until it has reached a considerable size or until some accident or strain by slightly increasing the contents of the hernia sac causes it to be noticed for the first time. Hence, the accident or strain is usually the occasion which first attracts the attention to a hernia long present but hitherto undiscovered. It has been a matter of almost daily observation at the Hospital for Ruptured and Crippled to find a patient applying for a truss or for operation for a hernia on one side, when careful examination discloses the fact that he has a hernia on the other side, almost if not as large as the one for which he applied for treatment. The size of the hernia and the character of the sac as determined by operation prove beyond question that this hernia existed for a long period and was quite unrecognized by the patient. Hence, it is true, that in many cases a person who claims that his hernia is due to an accident or injury may sincerely believe this is to be that fact, because he was unaware of the presence of a swelling prior to the accident, although it had really existed for months or years before. In many cases, however, the contrary is true and claim for indemnity or large damages is made upon a corporation for a hernia which the claimant well knew had existed for a long period prior to the accident. In some cases, evidence of his having worn a truss for a long period of time is apparent. We have seen many cases of this type in our medico-legal work and in some instances the sympathetic jury has awarded very large damages. In all of our experience we have never seen a single case in which there was any sound basis for the claim that the accident or injury was the cause of the hernia. In many cases the jury has been convinced by expert testimony that a hernia could not have been caused by the accident mentioned and have rendered a verdict accordingly; but on the other hand, in other cases, all of the expert evidence has been brushed aside and the jury has allowed its sympathy for the claimant to outweigh the seemingly slight loss of a few thousand dollars compensation to the supposedly wealthy corporation. One case which we recall is that of a man of about fifty years of age, who claimed to have been thrown forward against the back of the seat in front of him in a slight collision. The slight increase in intra-abdominal pressure was made the basis for his claim that a



large double inguinal hernia was the result of the accident, although there was no evidence of local injury at the site of either hernia. In spite of expert evidence to prove the fact that a double hernia is never the result of trauma, that these hernias were both too large to have been of recent origin, the jury awarded very large damages (\$15,000). However, the verdict was so palpably against the evidence that the decision was reversed by the Supreme Court.

At present the situation in regard to dealing with the question of traumatic or industrial hernia may be described as chaotic. There are, however, a few states in which the members of the Workmen's Compensation Commission apparently have made a scientific study of the subject before formulating any rules and in these states the subject is treated in a most fair-minded and judicial way; in other states, however, the rulings are apparently based on the old and long-discarded ideas as to the etiology of hernia, with the result of great financial loss to the interested corporations and in the end distinct harm to the individuals.

What, then, is the remedy? The only thing needed to bring about greater harmony in the procedure of industrial commissions is to spread broadcast a clearer knowledge of the well-known medical and surgical facts relating to the etiology of hernia. We must recognize that medical and surgical truths permeate but slowly, especially when they have to overcome long established traditions too often supported by court decisions. The first is to convince the commissions and the courts of the well-established surgical fact that hernia is a disease and not the result of an accident. When this has been done a radical review of the present state laws regarding compensation in cases of industrial hernia will be forthcoming.

#### Recommendations

1. Render proper compensation for all cases of true traumatic hernia due to direct violence.
2. Make a physical examination of all applicants for positions in industry no matter in what capacity; such examinations will determine the fact whether or not a hernia was present at the time of examination.
3. Any case of hernia developing in the course of duty, incident to the man's daily work, should be treated as a disease due to special anatomical weakness on the part of the individual, for which the company is in no way responsible. If it is considered wise under certain circumstances to recognize any moral responsibility, let it be on an economic or humane basis. This moral obligation should be understood to be strictly limited to such employes who had been found apparently free from hernia at the time of previous physical examination.

Respectfully submitted,

Committee on Traumatic Hernia.

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#### REPORT OF RECOMMENDATIONS OF THE AMERICAN RAILWAY ASSOCIATION IN CONNECTION WITH HOSPITAL STANDARDIZATION

I have been requested to speak to you this morning on what the railroads have been doing in connection with this program of standardization. And in order that you may form some idea and reach some conclusion as to just what we will be able to do to assist in this movement, I think it might be well to spend a minute or two on the question of what the organization is that I am speaking for.

The American Railway Association is an organization made up of the presidents and managers and operating officials of the various railroads throughout the country that are members of this Association. The Association membership comprises about two hundred and eighty-four thousand miles of railroad in the United States and Canada, and you will therefore see that practically every railroad in the country is a member of this Association.

The Association itself is conducted in the following manner: It has its own president and its general secretaries and secretaries of sections. The operating officials of the American Railway Association, the men who pass upon the recommendations made by the various sections of the Railway Association, are the general managers and the president and vice-president of the railroad, and while the action of

the American Railway Association itself is not compulsory or mandatory, it becomes a forceful action as a recommendatory practice because the very men who are called upon to accept the recommendation of the American Railway Association are the men who have favored such action.

The American Railway Association has numerous sections. It is needless for me to go into details in regard to them. Our section is the medical and surgical section and this section comprises, or is made up of, the railway and surgical chiefs of these various railroads that are members of the Association. This section was first incorporated in the American Railway Association about a year ago. And one of the first actions of the committee of that section was to take up the question of hospital standardization, because the railroads felt that it was imperative that our employes injured in service must get all possible care and attention.

The committee on hospital standardization discussing this subject made the following recommendation through its chairman, Dr. A. F. Jonas of the Union Pacific Railroad:

"The medical and surgical section committee on hospital standardization held a meeting at Chicago on April 6, 1921. In accordance with its understanding of its purpose, it has adopted the minimum standard as the basic recommendations for the railroads of the Association."

The recommendation of the committee was accepted and it was submitted to the various members of the sections, who unanimously approved it and on the sixteenth of November it will be submitted to the annual session of the American Railway Association, and I have no doubt in the world will be approved.

Now, this will mean that the railroads through their surgical service will take the position that they will have their men treated in hospitals that meet with the minimum standard of the American College of Surgeons. You appreciate as well as I that a large amount of our work is of an emergency character and that, therefore, we cannot always be choosers. There will be times when we will have to put men in a hospital that has not adopted the minimum standard for hospitals. But it is our intention wherever it is practicable to remove those patients from such hospitals and put them in a hospital having the minimum standard just as soon as consistent with safety to the patient. I do not know but what it is a pretty good thing to follow that up even a little bit closer than that. I am sure that in a number of instances the transportation of a man seriously injured—crushed leg, we will say—for a greater distance to a better hospital would be giving that man a greater opportunity for recovery than putting him in a hospital that was not up to the standard in its work.

#### Great Impulse to Standardization Movement

We have in the railroads about thirteen thousand doctors and students acting in the capacity of sur-

geons for the railroads. And we have about 275 or 280 men who are members of surgical staffs. And with the railroads taking this position, I believe that it will be a tremendous factor in assisting the bringing of standardization over a larger field.

I cannot give you the exact or even the approximate number of hospitals that are used by the railroads. I hoped to be able to get that but I could not. I know that the Baltimore and Ohio uses about 310. The Pennsylvania railroad uses about 277 hospitals. The Union Pacific, on the other hand, a railroad of about nine thousand miles, or three thousand four hundred miles larger than the Baltimore and Ohio, uses only about 123. The Union Pacific has twenty hospitals that are under its own control, at least that they contract with. The other hospitals are hospitals that they have used from time to time in emergency.

The railroads use four-fifths of the hospitals of the country, and while of course a large number of the hospitals have already reached the minimum, still there is a very large field which will be affected by this position of ours, and I can assure you the doctors of the American Railway Association are going to take the position not verbally but actively.—Daniel Z. Dunott, M.D., Baltimore, Chairman, Medical and Surgical Section, American Railway Association.

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The Rockefeller Foundation announced that the International Health Board has accepted an invitation to cooperate in carrying out the general scheme of reorganization of the public health activities of the Philippine Islands, which was recently made public by the president of the senate, Manuel Quezon.

The participation of the board will consist in lending the services of certain members of its staff for a limited period and providing specialists as consultants and assistants to Philippine government officials in various lines of public health work. The broad program which the government has adopted for improving health conditions includes the ultimate consolidation of all health functions in a single department of health to correspond with the ministry of health in other countries.

Among the persons whose services will be furnished by the Rockefeller Foundation is an assistant to the dean of the College of Medicine and Surgery of the University of the Philippines, who will assist in developing the medical school and will give particular attention to the problem of providing postgraduate instruction in public health so that the health workers so urgently needed in the Philippine Islands may be trained locally.

Fellowships for advanced study in the United States will be offered by the board to exceptionally promising and well qualified young Filipinos, to fit them for the more important administrative and technical positions in the public health service and for positions as instructors in the College of Medicine and Surgery and as teachers of nursing.



Existing facilities for the training of nurses are inadequate to meet the demand for hospital and private service. The nursing situation will therefore be studied and special attention given to training women in public health nursing.

As one important part of the plan, an assistant will be provided for the Director of the Bureau of Science, who will be expected to advise in the further development of that Bureau, which has already made notable contributions to various scientific problems. The Biological Laboratory, which is one department of the Bureau of Science, is to be expanded in order to serve as the central public health laboratory of the Philippines, with local laboratories in the provinces.

Dr. Victor G. Heiser, director for the East of the International Health Board, and formerly director of health for the Philippine Islands, will go to Manila to assist in carrying out the program.

### MALPRACTICE CASES IN NEW YORK

Analysis of malpractice cases receiving counsel's attention between April 1, 1921 and March 15, 1922, is set forth in detail in a table. It appears that on April 1, 1921, there were pending sixty-nine such cases and since that time there have been forty new cases instituted and thirty-seven disposed of, so that there are pending on March 15, 1922, seventy-two cases, an increase of three cases over the number pending a year ago. The table likewise shows that there is a larger percentage of such cases brought against general practitioners than against specialists. Thus of the cases pending on April 1, 1921, over 74 per cent were against general practitioners and of the new cases instituted since that time 58 per cent were against general practitioners.

### THE SCHICK REACTION\*

Monthly Bulletin Issued by the Laboratory of Pathology and Bacteriology, Finley Hospital, Dubuque, Iowa

Schick in 1913 published the method by which the presence of diphtheria antitoxin in the blood and tissues can be determined. He injected a minute quantity of diphtheria toxin intracutaneously and a local reaction followed if there was less than 1-30 of a unit of antitoxin per c.c. of blood. The latter amount is considered sufficient to protect against diphtheria. The explanation of the test is that when no antitoxin is present, the toxin acts on the skin: when antitoxin is present it neutralizes the toxin so no poisoning results, or in other words—a negative reaction indicates the presence of antitoxin. A positive reaction indicates that the patient is susceptible to diphtheria.

#### The Technique of the Test

The injection is made on the flexor surface of the

forearm or arm, which should be cleansed with soap and water and allowed to dry. A fresh solution of diphtheria toxin is prepared and should be of such strength that 0.2 c.c. represents 1-50 of the minimum lethal dose of toxin for a 250 gram guinea pig. This amount is injected with a good syringe which has a fine steel or platinum-iridium needle intracutaneously. A good guide for the insertion of the needle into the proper layer of skin, is to be able to see the oval opening of the needle through the superficial layers of the epidermis.

A properly made injection is recognized by a distinct wheal-like elevation which shows the prominent openings of the hair follicles. The results of the test should be read at the end of 24, 48, 72 and 96 hours.

#### Type of Reaction

The reaction that appears at the site of injection may be either (1) positive, (2) negative, (3) pseudo, or (4) combined positive and pseudo.

(1) The positive reaction represents the action of the toxin on tissues unprotected by antitoxin. It indicates, therefore, an absence of immunity to diphtheria. A trace of redness appears slowly at the site of injection in from 12 to 24 hours. The reaction reaches its height on the third or fourth day and gradually fades leaving a definite circumscribed area of redness and slight infiltration measuring 1 to 2 cm. in diameter. The degree of redness and infiltration varies to some extent, depending on the relative susceptibility of the patient.

(2) A negative reaction is one in which the skin at the site of injection remains normal. Provided the toxin was of full strength and that the injection was in the proper layer of skin, it means that the individual is immune to diphtheria.

(3) The pseudo reaction represents a local anaphylactic response of the tissue cells to the protein substance of the autolyzed diphtheria bacilli, which is present in the toxic broth used for the test. It is of urticarial nature; appears early—6 to 18 hours; reaches its height in 36 to 48 hours, and disappears on the third or fourth day. The reaction may be two or three times the size of a true reaction. In doubtful cases a control test, made by injecting Toxin-Antitoxin heated to 75 degrees Centigrade for five minutes gives a similar reaction which passes through the same clinical course. Individuals giving the pseudo-reaction only, are immune to diphtheria. The false reactions are seen in relatively few children, but does occur fairly frequently in adults. It is, therefore, important to recognize and control it both by the injecting the heated toxin and observing the clinical course of the reaction.

(4) The combined reaction represents the positive and pseudo-reactions in the same individual. The central area of redness is larger and better defined while the infiltration is more marked. The reaction is recognized by noting the evidence of a true reaction, a definite area of scaling, brownish pigmentation after the pseudo element has faded. In addition

\*Acknowledgment—The statements in this article are largely based on the published work of Dr. William H. Park and his associates of the New York City Department of Health.

a smaller, though weaker, reaction is obtained by a control test made with heated toxin. The control represents only the pseudo-reaction. The combined reaction indicates absence of immunity to diphtheria.

#### Results of Tests in New York

Dr. Park and his associates who have used the test extensively in this country, state that their result closely parallel those of Schick. They found that a large number of individuals are naturally immune. They publish the following:

#### Summary of Schick Tests Showing Maximum and Minimum Percentage of Schick Reactions

	% Positive Schick
1 to 2 years.....	50 to 70
2 to 4 years.....	32 to 60
4 to 6 years.....	25 to 55
6 to 8 years.....	21 to 55
8 to 10 years.....	22 to 55
10 to 12 years.....	21 to 55
12 to 14 years.....	17 to 50
14 to 16 years.....	16 to 50
16 to 30 years.....	15 to 40

From these figures they state that it is evident that it is in the first five years of life that the greatest susceptibility exists. This corresponds to Schick's findings as he reported positive reactions in 7 per cent of the new born, in 43 per cent during the second six months of life, in 60 per cent in the first five years of life, and in 50 per cent between five and fifteen years.

#### Use of Toxin-Antitoxin in Immunization Against Diphtheria

Behring first used Toxin-Antitoxin mixtures for the immunization of children against diphtheria. For several years the health department of New York City have been using the mixture and recently reported their results for a period of five years. Several thousand children were immunized after having been found susceptible to diphtheria by the Schick test. The Toxin-Antitoxin mixture used contained 2 L plus doses of toxin to each cubic centimeter and were either neutral (66-70% L plus to each unit of antitoxin) or slightly toxic (80-90% L plus to each unit of antitoxin) to the guinea pig. The doses varied from 0.5 to 1 cubic centimeter and the number of injections from one to three. Three injections of 1 cubic centimeter made subcutaneously at intervals of seven days gave the best results. The local reactions were generally mild but were somewhat more marked in older than in younger children. Malaise and temperatures of 100 to 102 degrees Fahrenheit were noted in about 20 per cent of the cases. Rarely the temperature rose to 104 degrees Fahrenheit. The symptoms lasted from twenty-four to forty-eight hours and then subsided. Superficial abscesses developed in twelve cases but cleared up quickly.

The re-tests with the Schick reaction showed only 30-40 per cent immune three weeks after the first in-

jection, about 50 per cent at four weeks, 70-80 per cent at six weeks, and 85-90 per cent at eight to twelve weeks. Studies show that the immunity persists for five years and may be indefinite.

Park and Zingher conclude that it is advisable to immunize children soon after the first year of life, so as to afford them a protection against diphtheria during the dangerous years. These children have no hypersensitiveness to the bacillus protein and show mild local and constitutional symptoms. They believe that an immune child population could thus be developed and fresh cases would be prevented and the carrier menace would soon disappear. They furthermore point out that by the use of the Schick reaction a goodly proportion of children will not have to have the usual prophylactic dose of antitoxin when exposed to diphtheria. In the light of modern serum therapy this is no small matter as sensitization to horse serum is thus prevented. That immunization may be started very early is evidenced by the fact that in their series, 2,000 infants, none over one week old, were injected. No ill effects were noted in a single case. Eighty per cent remained immune after the time the passive immunity derived from the mother usually disappears.

#### Conclusions

The Schick test determines an individual's susceptibility or non-susceptibility to diphtheria.

Sensitization of a goodly percentage of the public, with the usual prophylactic dose of antitoxin, can be prevented by first finding out if individuals are susceptible to diphtheria or not.

Immunity to diphtheria for at least five years and possibly indefinitely, is conferred by injections of Toxin-Antitoxin mixture.

It may be hoped that with the vigorous use of these new weapons diphtheria will cease to be the great scourge of childhood.

#### RADIUM IN CONGO

The Scalpel of Brussels quotes the bulletin of the Belgian Chemical Society to the effect that the sample of minerals from the Congo assayed by Professor Schoep of the University of Ghent yield 424 kg. of uranium and 139 mg. of radium to the ton. The minerals came from the Upper Katanga, in the concession of the Union Miniere which has entrusted the industrial treatment of the uranium to the Belgian Societe Generale Metallurgique de Hoboken, which has put up a factory for the purpose in the Antwerp district. Other deposits of the same minerals have been found at other points specified, and Professor Schoep has found two new kinds of minerals among them, extremely radioactive. He has named one "curite" and the other kasolite," and announces that the crystals are soluble in nitric acid, and the radium salt can then be extracted from the fluid without passing through the usual calcination process.—Journal of A. M. A.



## IOWA STATE UNIVERSITY NEWS NOTES

Dr. Don M. Griswold

Dr. Harman L. Stanton and Dr. C. C. Jones, assistants in the department of ophthalmology, otolaryngology and oral surgery, State University of Iowa, have located in Des Moines where they will practice their specialty, eye, ear, nose and throat.

Dr. F. C. Nilsson, assistant in the department of ophthalmology, oto-laryngology, and oral surgery, State University of Iowa, has accepted the position as instructor in the same department, Dr. Dean's department.

Dr. H. P. Miller, resident physician in the department of surgery, has gone into partnership with Dr. C. T. Foster of Rock Island.

Dr. Harry T. Dunn, assistant in the department of gynecology and obstetrics has gone into private practice at Bristow, Iowa.

Dr. Herbert Reuling of the department of ophthalmology, oto-laryngology and oral surgery, has located at Waterloo where his practice will be limited to his specialty, eye, ear, nose and throat.

Dr. W. T. Vandesteeg, resident physician in the department of gynecology and obstetrics, has accepted a position as mining surgeon in Biwaki, Minn

Dr. Gideon J. Ferriera, hospital chemist of the State University Hospital has gone into practice at Aurora, Minnesota.

Dr. Harry W. Dahl, lecturer in clinical microscopy, department internal medicine, has accepted a position in the Hospital of the Rockefeller Institute for Medical Research, New York City.

Dr. Edgar Medlar, acting head of the department of pathology and bacteriology and hospital pathologist, the past year, has accepted a position with the Metropolitan Life Insurance Company and went to his new position at Mount McGregor, New York, August 1, 1922.

Dr. Frank Peterson, assistant in the department of pathology and bacteriology, has accepted the position as assistant in surgery in the department of surgery, College of Medicine, State University of Iowa.

A public health conference for health officers, nurses, and sanitarians, was conducted under the auspices of the extension division of the State University and the state board of health, at the University of Iowa, on the 18, 19, 20 and 21st of July.

## SOCIETY PROCEEDINGS

## Dubuque County Medical Society

Dr. George W. Hall and Dr. Frank Smithies, both of Chicago, and Dr. F. H. Falls of the State University of Iowa City were among the visiting speakers on the morning and afternoon programs of Dubuque County Medical Society, June 27, 1922.

At 6:30 in the evening the annual banquet was held at Leiser's in Sageville. Dr. Mary Killeen was toastmaster.

Morning Session, 9 to 12—First Congregational Church, 10th and Locust streets.

Neurologic Clinic—Dr. Geo. W. Hall, Chicago.

Diagnostic Clinic Internal Medicine—Dr. Frank Smithies, Chicago.

Clinic on Dermatology—Dr. W. A. Pusey, Chicago.

Afternoon Session, 2 to 5:30—First Congregational Church, 10th and Locust streets.

Interpretation Wassermann Reaction—Dr. Frank P. McNamara, Dubuque.

Treatment Syphilis—Dr. W. A. Pusey, Chicago.

Clinical Procedures Available for the Detection of Liver and Bile Tract Disease (with lantern slides)—Dr. Frank Smithies, Chicago.

Teleordiography of the Heart—Dr. W. A. Johnston, Dubuque.

Modern Aspects of Cesarean Section—Dr. F. H. Falls, State University, Iowa City.

The Diagnosis and Management of Acute Cranial Injuries—Dr. Harry Jackson, Chicago.

Dr. Killeen is president of the county organization, and Dr. H. E. Thompson, secretary. Program committee is comprised of Doctors C. E. Lynn, Walter Cary, J. E. Calhoun, H. B. Gratiot, J. C. Hancock, H. E. Thompson and O. E. Haisch.

## Greene County Medical Society

The Greene County Medical Society held its quarterly meeting, May 17th, at the home of Dr. and Mrs. Cressler, Churdan. A seven o'clock dinner was served to the members and their wives. The meeting was called to order by President, Dr. Reed, of Grand Junction. Dr. Franklin of Jefferson, gave his report as delegate to the Iowa State Medical Society at Des Moines, May 10.

## Marion County Medical Society

The fiftieth anniversary meeting of the Marion County Medical Society was held in Knoxville, Thursday, June 22.

In the afternoon, the doctors and dentists met in scientific session at Auld Park, the following program was rendered:

Diagnosis of the Acute Abdomen—J. W. Martin, M.D., Des Moines.

Our Relationship from the Dental Viewpoint—W. L. Harlan, D.D.S., Knoxville.

History of the Pella Typhoid Epidemic of 1920—C. F. Aschenbrenner, M.D., Pella.

While the medics and dents were indulging in their

shop talks, the wives of the local doctors with Mrs. Magarian as hostess, entertained the visiting ladies at a reception.

In the evening a banquet was served by the camp-fire girls at the K. P. hall under the supervision of Mrs. H. L. Bridgman. After the inner man was served a very interesting program of toasts, impromptu talks, recitations and vocal and musical numbers was rendered, Dr. Carl Ashenbrenner of Pella presiding as toastmaster. Sixty-five doctors, dentists, their wives and guests were in attendance. Prominent among those present from outside the county were, Dr. and Mrs. Martin, Dr. Holbrook, Dr. King, and Dr. Huston of Des Moines; Dr. Sanford of U. S. Veterans' Hospital No. 75 of Colfax and three of his staff; Dr. and Mrs. Brittell of Chariton; Dr. Taylor, Dr. and Mrs. Payne of Monroe; Dr. and Mrs. Ayres of Leighton.

The Marion County Medical Society was organized January 8, 1872. The charter members were Drs. A. D. Wetherall, N. R. Cornell, W. E. Wright, S. A. Duncan, H. J. Scoles, W. T. Baird, J. W. Mitchell, and E. Williams, none of whom is living. Since its origin the society has been twice re-organized, once in 1900 and again in 1903. Under the latter date a charter was granted by the State Society, the local association being recognized as one of its component units. At present the number of physicians of Marion County numbers twenty-six, eighteen are members in good standing of the county society.

C. S. Cornell, Sec'y.

#### Page County Medical Society

At a meeting of the Page County Medical Society held at the Hand Hospital a number of physicians were present from Clarinda, Yorktown and Essex as well as the local members of the society. Cases were presented and discussed by the Shenandoah doctors. The next meeting will be the annual session at Clarinda the first Thursday in December.

Those present from out of town at the meeting were: Dr. P. E. Bowers, Dr. R. J. Matthews, Dr. W. D. Phillips, Clarinda; Dr. C. C. Patriott, Essex and Dr. J. F. Benning, Yorktown.

#### Van Buren County Medical Society

In honor of Dr. G. R. Neff of Farmington, and Dr. T. G. McClure of Douds, two veteran physicians of Van Buren county, the Van Buren County Medical Society gave a banquet at Hotel Manning, at which the members of the society and their wives were present. The occasion was in the nature of a golden anniversary for the two senior physicians, Dr. Neff having been engaged in the practice of medicine fifty-two years; Dr. McClure forty-seven years. Both men are still in active practice and both men have spent all their professional life in Van Buren county.

At present Dr. T. G. McClure is president, Dr. G. R. Neff, vice-president of the medical society and Dr. C. R. Russell of Keosauqua, secretary and treasurer.

#### Wall Lake District Medical Society

The Wall Lake District Medical Society, comprising Ida, Sac, Crawford, Carroll and Calhoun Counties, met at the Opera House, Wall Lake, June 22.

The Program was as follows: Afternoon Session, 1:30 p. m.—Meeting called to order by President J. H. Stalford, Sac City.

Address of Welcome—Mayor E. R. Frazier.

Response—Dr. F. E. Kauffman, Lake City.

Ruptured Liver—Dr. F. H. McCray, Schaller. Discussion opened by Dr. E. S. Parker, Ida Grove, and Dr. G. Hartley, Battle Creek.

Obstetrics in Ida County During 1921—Dr. C. S. Stoakes, Battle Creek. Discussion opened by Dr. G. C. Moorehead, Ida Grove, and Dr. Grubb, Galva.

Confusing Abdominal Symptoms Produced by Diseases of the Chest—Dr. D. H. Hopkins, Glidden. Discussion opened by Dr. W. M. Shirley, Carroll, and Dr. D. J. Townsend, Lohrville.

Purpura Haemorrhagica, with Presentation of Case—W. E. McCrary, Lake City.

A Case of Purpura Haemorrhagica—Dr. H. D. Jones, Schleswig. Discussion on the two last named papers opened by Dr. G. H. Swearingen, Sac City, and Dr. H. L. Fobes, Auburn.

Treatment of Pulmonary Tuberculosis by X-Ray and Actenic Ray—Dr. O. W. Wyott, Manning. Discussion opened by Dr. Robert B. Armstrong, Ida Grove, and Dr. H. R. Pascoe, Carroll.

Some Surgical Conditions the General Practitioner Meets—Dr. E. C. Junger, Soldier.

Management of Minor Surgery, or Minor Surgery in General Practice—Dr. Paul W. Van Metre, Rockwell City. Discussion on the last two named papers opened by Dr. E. E. Speaker, Lake View, Dr. J. J. Meehan, Denison, and Dr. James McAllister, Odebolt.

The Criminal—Dr. Lena A. Beach, Rockwell City. Discussion opened by Dr. C. C. Bowie, Carroll, and Dr. A. C. Norton, Rockwell City.

A Series of Prostatectomies, with Exhibition of Specimens—Dr. E. S. Parker, Ida Grove. Discussion opened by Dr. O. C. Morrison, Carroll, Dr. M. J. McVay, Lake City, and Dr. Carlisle, Manning.

Diagnosis of Diseases of the External Eye—Dr. J. S. Buzard, Carroll. Discussion opened by Dr. J. H. Stalford, Sac City, Dr. L. M. Coon, Denison, and Dr. G. W. Anderson, Early.

Evening Session, 7:30 p. m.—Five thousand feet of motion picture film from actual photography in the Wertheim Obstetrical Clinics, covering topics as follows: Clinical Examination for Pregnancy; Abnormalities of the Female Skeleton; Normal Delivery; Breech Presentation; Face Presentation and Delivery; Resuscitation of a Child; Walcher Posture; Eclampsia; Breech Presentation with Extraction of Child; Podalic Version from Head Presentation and Extraction of Child by the Foot; Extraction of Dead Foetus by Foot with Perforation of the After Coming Head; Craniotomy; Forceps Delivery; Caesarian



Section; Caesarian Section with Hydrannios; Examination of Prolapse of Uterus; Removal of Ovarian Cyst by Abdominal Sections.

Address—The Lost Art of Obstetrics, Dr. Palmer Findley, Omaha.

Officers—President, Dr. J. H. Stalford, Sac City; vice-president, Dr. H. L. Fobes, Auburn; secretary, Dr. L. H. Jones, Wall Lake; treasurer, Dr. G. C. Moorehead, Ida Grove.

#### Medical Women's International Association

The second meeting of the Medical Women's International Association will be held at Geneva, Switzerland, from the fourth to the seventh of September nineteen twenty-two. All members are urged to be present. Each society of medical women in the world is invited to send one eligible delegate and an additional delegate for every hundred members.

Interesting reports will be read by medical women from different countries and the constitution of the organization will probably be revised in accordance with the provisions under which it was adopted. Clinics in the different European countries may be visited enroute. The attractions of travel in Europe are great this year. Practically all countries are accessible and the passion play will be on at Oberammergau during the entire summer.

#### PERSONAL MENTION

Dr. L. M. Munson of Chicago, has associated himself with the Fort Dodge Clinic on the eighth floor of the Carver building. He is a graduate of the University of Chicago and Rush Medical College of the class of 1910, and after that spent three and a half years doing post-graduate work in the Presbyterian, St. Lukes and Alexian Bros., hospitals in Chicago. Dr. Munson will be consulting medical and surgical advisor to the clinic and specialize in internal medicine and diagnoses. Also he will supervise the clinical laboratory, with Mr. R. S. Hopkins, of Chicago, as technician.

Dr. J. E. King, Eldora, had a very happy day June 9 when he received the congratulations of many friends on his having reached the ninety-seventh anniversary of his birth. The doctor was feeling remarkably well, and the members of his family joined with him in an old time family dinner at the home of his son, O. J. King. He took great delight in cutting his own birthday cake. His son, Jay A. King of Des Moines, and grandson Harry Brookins and Wife, of St. Paul, were present on that occasion.

Dr. Walter Bierring has left for a six weeks' trip abroad. Dr. Bierring will spend the greater part of his time in Scotland. While at Edinburgh he will have a high degree conferred upon him by Edinburgh University in recognition for medical services of unusual character during the World War.

Dr. W. L. Donnelly, who has just returned from Johns Hopkins University at Baltimore, Maryland, will open an office at No. 614 Kahl building, Daven-

port. Dr. Donnelly is a specialist in urology and will limit his practice to that particular field. He was associated with Dr. Hugh H. Young in the Brady Urological Institute at Johns Hopkins and has had wide experience in his line of work. Dr. Donnelly was formerly of Clinton, Iowa.

Dr. Jas. K. Biddle has arrived to take up his work as surgeon at the Carroll Clinic. He is a native of Ohio, received his literary training at Ohio University and his medical training at Baltimore. In the years 1909 and 1910 he was resident surgeon at the Baltimore City Hospital. For the past five years he has been doing general surgery in the Pittsburg district. He is a graduate of the Army Medical School at Langres, France, and also studied in Paris and London. Dr. Biddle was in army service two years and holds the rank of major. After the armistice was signed, he was with the army of occupation and spent six months at Coblenz on the Rhine.

Dr. Arthur Steindler, professor of orthopedic surgery at Iowa University, and head surgeon at the Children's Hospital across the river has left for the East. He will sail for Europe and pass the coming three months at his old home in Vienna, Austria.

Dr. J. T. Priestley of Des Moines, whose knee was injured several weeks ago when he was struck by an automobile, is able to be at his office every day.

Dr. Grover of Halbur moved to Manning about the first of June and opened an office in the rooms over the Reinholdt Hardware Store, formerly occupied by Dr. Sievers.

Dr. Frank E. A. Thone, 1609 Edison avenue, son of Mr. and Mrs. Charles Thone, will go to Yellowstone National Park where he will lecture this summer to tourists, explaining rock formations in the park and other things of interest. Dr. Thone will be employed by the government. He received his degree of doctor of philosophy at the University of Chicago on May 22, 1922.

The Fort Madison Medical Society honored Dr. Max A. Schlapp, former Fort Madison man and famous New York neurologist by entertaining him at a 6 o'clock dinner at the Iowa cafe May 24. All members of the Fort Madison Medical Society were present. Dr. Schlapp addressed the meeting, speaking upon his work and the plans for a pathological laboratory for Fort Madison.

Dr. B. L. Eiker of Leon departed recently for St. Louis where he is attending the meeting of the American Medical Association in session there this week. Dr. Eiker is one of three delegates sent from the Iowa State Medical Association to the national meeting.

Phillip and Dr. Lucy Busenbach Harbach, formerly of Des Moines, who went to Germany to live following the World War, will return to Des Moines shortly to take up residence there. The Harbachs are dissatisfied with conditions in Germany it is reported.

Dr. C. E. Broderick, who has been taking advanced work in a hospital at Washington, D. C., has accepted an offer to act as ship doctor on a ship owned

by the White Line Steamship Company, during the illness of the regular ship physician. He is sailing for South America, Jamaica, Panama and numerous southern points.

Dr. T. R. Campbell of Rolf has purchased the equipment of the late Dr. E. E. Smith and will remove to Sioux Rapids.

Dr. Z. R. Aschenbrenner has located in Pella. Dr. Aschenbrenner is a graduate from the medical department of the Iowa State University and served as an interne at Harper Hospital, Detroit, two years.

Dr. L. E. Jensen has decided to locate permanently at Audubon. He will take an office with Dr. A. L. Brooks with whom he will be associated in the practice of medicine.

Dr. Jackson formerly of Spirit Lake has located at Arcadia to practice medicine.

Dr. George S. Waterhouse, a graduate of the class 1895 in medicine at Iowa State University, now located at Mapleton, has been seriously ill but is now said to be recovering his health.

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### HOSPITAL NOTES

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Dr. Raymond Clare Coleman has awarded a contract for a splendid new hospital, at Estherville. It will cost about \$60,000.

The general contract for the new addition to Sunnyslope Sanitarium, Ottumwa, was let by the board of trustees of the institution, of which E. P. Barton is treasurer, to the Ottumwa Mill and Construction Company. The local firm's figure was \$24,312.

Dr. J. L. Smith of Chicago, chief inspector of hospital under the auspices of the College of Surgeons, made a complete survey of St. Anthony Hospital, Carroll, and found everything very satisfactory. The records were pronounced correct, and he complimented the sisters and gave much credit to them for their work. This is the annual inspection and is made in connection with the standardization of hospitals.

Miss Margaret Paulus of Mason City has assumed charge of the Eldora Hospital.

Fifteen thousand dollars' worth of radium belonging to Dr. J. J. Flannery, 4215 Grand avenue, was lost at Mercy Hospital, it was revealed June 14 and the traditional search for the needle in the haystack was enacted with grim seriousness.

Beginning June 1, Drs. M. L. and L. E. Hooper took over the management of Bethel Hospital in Indianola. The ownership of the hospital will remain in Dr. Newsome, only the management passing to the Drs. Hooper.

It will be maintained as in the past as a general hospital open to all reputable physicians in the

county. Miss Isabel Willett, a graduate nurse well known in Indianola for a number of critical cases she has successfully nursed, will be the superintendent in charge.

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### OBITUARY

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Dr. G. O. Blech died at the family residence, 1048 Central avenue, Dubuque, June 6, after an illness of two months' duration.

He was born February 27, 1852, in Brandeburg, Germany, and was educated and graduated from the college at Sorau, Germany. He later studied medicine and was graduated from the University of Marburg. Twenty-eight years ago he came to Davenport, making his home in Davenport until fifteen years ago when he moved to Dubuque, where he had since resided. He was a member of the Dubuque Medical Society, St. John's Lutheran Church and of the Saengerbund.

Dr. John Frederick Baker of Davenport, aged seventy-seven years, died June 15 at 9:30 o'clock at his home, 1420 Iowa street. He had been in ill health for several years following an operation.

Dr. Baker, who was one of the fourth generation of a family of doctors, was born in Meriden, N. H., on September 14, 1845, coming to Davenport with his parents in 1845. His father, Dr. J. W. H. Baker, was a well known physician. He was educated in the schools here and at Griswold College then located in Davenport. He also took work at Cable Union Academy at his old home town, Meriden, becoming associated with his father on his return from school. After spending some time at Ballard's drug store, he continued his medical studies at Bellevue Medical College in New York City.

Following his graduation he assisted his father for a time and then moved to St. Paul, Minnesota, where he practiced for twenty-five years. He and his family returned to Davenport in 1910. He was a member of the Presbyterian Church.

Dr. Baker was married to Miss Sarah L. Merrill at Madison, Wisconsin, on July 26, 1871. She survives with one son, John F., Jr. Other surviving relatives are Dr. C. R. Baker of Davenport, Dr. O. F. Baker of Shell Lake, Wisconsin, and two sisters, Mrs. F. A. Crouch and Mrs. J. R. Smith of Davenport.

Dr. E. E. Smith, a practicing physician in Sioux Rapids for the past twenty-four years, died suddenly of heart disease April 20. Dr. Smith was born at Waterloo on September 30, 1873.

After completing the high school he entered Iowa State College, Ames, and graduated in the class of 1893. He then entered the Medical College at Cincinnati, Ohio, and graduated in 1898. On May 10, 1900, he married Georgia Adah Bashford of Cin-



cinnati to whom were born three children who survive him.

Dr. Smith was a competent, popular and successful physician, was active in local affairs and occupied many responsible positions of trust.

### THIRTY-FIFTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE MISSOURI VALLEY

The Thirty-fifth annual meeting of the Medical Society of the Missouri Valley will be held at St. Joseph, under the presidency of Dr. Paul E. Gardner, September 21 and 22.

A series of clinics will be held at the various St. Joseph hospitals September 19 and 20. An excellent scientific program will be presented including a Symposium "The Early Recognition of Cancer." Other papers will be given by Dr. C. W. Hopkins, Chief Surgeon C. & N. W. Ry.; Dr. N. M. Keith, of the Mayo Clinic; Dr. J. H. Dowd, Buffalo, N. Y., and others.

Headquarters and meeting place at the Robidoux Hotel. Please make your reservations early. Address Dr. Chas. Woods Fassett, Kansas City, Missouri, for complete program.

### BOOK REVIEWS

#### CLINICAL TUBERCULOSIS

By Francis Marion Pottinger, A.M., M.D., LL.D., Medical Director, Pottinger Sanatorium, For Diseases of the Lungs and Throat, Monrovia, California. With a chapter on Laboratory Methods. By Joseph Elbert Pottinger, A.B., M.D., Assistant Medical Director and Director of the Laboratory Pottinger Sanatorium. In two volumes. Volume One, Pathological Anatomy, Pathological Physiology, Diagnosis and Prognosis. Second Edition with 105 Text Illustrations and Charts and 6 Plates in Colors. Volume Two, Complications and Treatment with 65 Text Illustrations and Charts and 4 Plates in Color. C. V. Mosby Company, St. Louis, 1922.

This voluminous work presents an exhaustive account of our knowledge of tuberculosis in all its medical relations by men who have devoted many years of study to the subject with a vast amount of material at hand and under the most favorable circumstances. The study of tuberculosis has been conducted in a private sanatorium in patients of unusual intelligence, who could cooperate with the physician to an unusual degree in following methods of study and treatment. In the large number of patients who come under the care and direction of Dr. Pottinger, there were representatives of all stages

of the disease; from the incipient forms to all stages of development, thus giving an opportunity for the most complete clinical study of the disease.

Chapter one lays the foundation for the clinical study of tuberculosis, and chapter two the sources and routes of infection. Chapter three the relationship of the primary focus to clinical tuberculosis. In chapter four we find the important subject of tuberculosis in childhood, and so we pass on to chapter twelve to the consideration of trauma as a factor in producing tuberculosis. This has been a subject of much medico-legal interest. Dr. Pottinger very correctly shows, as we believe, that with our present knowledge of the essential causative factors in tuberculosis, that when infection has occurred, that an implantation may be favored by a traumatic condition, and further, a quiescent focus, in a way to mobilize bacilli by a trauma. The question is fully discussed as relates to a particular case. Several chapters are devoted to the diagnosis of tuberculosis by physical examination, tests, x-ray and by laboratory methods, their value and the elements of error. It is made quite clear in the first volume that an early diagnosis of tuberculosis involves great care and an exhaustive study of the patient. So important is an early diagnosis that a conscientious physician owes it as a duty to his patient and to himself to read and study this volume with great care. Dr. Pottinger is not dogmatic but presents the evidence to the serious consideration of the reader.

The second volume is largely devoted to the treatments of tuberculosis. Of course, it follows, that the treatment is based on a rational consideration of the evidence presented in the first volume. To base a treatment on an assumption of tuberculosis without taking into consideration the pathology and the possible complications so thoroughly set forth in volume one, is unscientific, and will lead to disappointment, and injustice to the patient. These two large volumes may seem something of an undertaking but it is really worth while, and we feel that when one has once entered earnestly on the task, he will find his interest increasing.

#### AMERICAN ILLUSTRATED MEDICAL DICTIONARY (DORLAND)

A New and Complete Dictionary of Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Science, Nursing, Biology, and Kindred Branches, with New and Elaborate Tables. Eleventh Edition; Revised and Enlarged; Edited by W. A. Newman Dorland, M.D.; Large Octavo of 1229 Pages with 338 Illustrations; 141 in Colors, Containing Over 1500 New Terms. W. B. Saunders Company, 1921. Price Flexible Leather \$7.00 Net; Thumb Index \$8.00 Net.

The medical profession is again under obligations to W. B. Saunders Company for in a little more

than a year, to issue a new and enlarged edition of Dorland's Medical Dictionary.

The wide range which this dictionary covers renders it an indispensable adjunct to every professional library even including the library of an attorney. The addition of thirty pages and 1500 new terms shows that while the previous edition is of great value, the new edition becomes a necessity. It further shows the increasing but wider range of medical and allied science in relation to the profession itself and to the public.

#### BOOK ON THE PHYSICIAN HIMSELF, FROM GRADUATION TO OLD AGE

By D. W. Cathell, M.D. This is the vastly improved crowning edition. Published by the author, Emerson Hotel, Baltimore, Maryland.

In these days of restlessness on the part of the medical profession the inquiry constantly arises what can we do to reach success? One says, that we are confronted by unfriendly or threatened unfriendly legislation; another says that it is free clinics, autocratic medical organizations, or other influences beyond ourselves that are at fault. Let us read what Dr. Cathell says. It was many years ago that we had the pleasure and advantages of reading an earlier edition of "The Physician Himself" in which Dr. Cathell pointed out the personal attributes of the physician which led to success or to partial failure.

Dr. Cathell has now reached the mature age of eighty-three years with fifty-seven years practice to his credit. During this time remarkable changes have occurred in the practice of medicine. The vast changes which have taken place in the science and art of medicine and its various branches has greatly increased the responsibility of the physician, but his moral and social obligations are the same. His duties to his patients and to the public are essentially the same, according to his newly acquired knowledge.

The fundamental proposition relates to two principles, "A greater scientific side and a lesser but very important personal side." Dr. Cathell lays great stress on the need of the physician placing the increased and increasing knowledge of the science of medicine at the service of his patient and the public in the true scientific spirit and gives great praise to those who have generously made possible the advancement of knowledge, and particularly refers to the Rockefeller Foundation. The importance of the personal side is a long story and relates to our conduct towards our professional associates and the patience and courtesy towards the general public which may be included under the general term of being a gentleman in the highest sense of the word.

When we attribute our failure to succeed to the fault of others and lose sight of our own shortcomings let us read what Dr. Cathell says in a prayer-

ful state of mind and perhaps a new light may come to us. This is a book that the young practitioner should read before fixed ideas are formed, and it may not be too late for the older men to study with some hope for the future.

#### THE MEDICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume Five, Number Four. January, 1922. By New York Internist. Octavo of 214 Pages with 35 Illustrations. Per Clinic Year (July, 1921 to May, 1922). Paper \$12.00 Net; Cloth \$16.00 Net. W. B. Saunders Company.

A few contributions will illustrate the character of this New York number. The first clinic number is by Dr. Warfield T. Longcope, "Epidemic Jaundice with Special Reference to Mild Forms Occurring in the United States." At Bellevue Hospital "The Treatment of Pneumonia," by Dr. Harlow Brooks. "Five Common Clinical Types of Appendicitis," Dr. John L. Kantor, Vanderbilt Clinic, at the Harlem Hospital. A case of "Hypernephroma with Spinal Metastases," by Jesse G. M. Bullowa.

These papers furnish fair examples of the eleven clinical papers presented in this number.

#### HAY FEVER

The desensitization treatment of hay fever patients is now in full swing, for the annual August datings have not been canceled. However, there are procrastinators and unbelievers in this domain of experiment, as in all others. There will be plenty of hay fever this year, notwithstanding the endorsement of the pollen extract desensitization treatment (prophylactic) by Dr. Scheppegrell, president of the American Association for the Prevention of Hay Fever (who has just written a book on the subject), and others. These patients are not altogether at the mercy of the ragweed, however, for it is possible to mitigate their condition by the application of ointments, inhalants or sprays.

The nasal mucosa is disorganized, relaxed, weeping, as a result of the pollen bombardment. It can be toned up to a material degree of resistance and independence by the use of adrenalin (P. D. & Co.) in spray, inhalant or ointment form. When a comparatively weak solution is used in spraying, no reaction follows, and the applications may be repeated as often as desired without risk of toxic effect. Ointments and inhalants of adrenalin are rather more convenient to use than the spray, though not so prompt in their effect. They contain adrenalin 1:1000, and it is the gradual release of the adrenalin that prevents a too pronounced astringent effect when they are applied.



# The Journal of the Iowa State Medical Society

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No. 9

## OUR PRESENT KNOWLEDGE AND EXPERIENCE CONCERNING CÆSAREAN SECTION\*

EDWARD P. DAVIS, M.D., Philadelphia

There has been time for the early enthusiasm concerning Cæsarean section to abate; for the results (good and bad) of the operation to become apparent; for a check to be put upon the improper performance of the operation and more accurate knowledge obtained concerning this important procedure.

A highly contracted pelvis in a woman advanced more than a few months in pregnancy is today a self-evident indication for Cæsarean section. A central placenta prævia in a primipara considerably beyond the average age of child-bearing, with child at or near term and in good condition, the cervix unsoftened, unshortened and undilated is, from the standpoint of surgery, a self-evident indication for delivery by section. A normally implanted placenta undergoing premature separation in a patient with undilated and undilatable birth canal comes under the same category; but while these are simple problems there are other conditions where the choice of operation requires especial training and experience.

Border line pelvises furnish a difficult problem. We are yet without an absolutely accurate method of measuring the size of the foetus. Frequent observation during pregnancy in primiparæ to determine the presence or absence of descent and engagement is our safest guide. So soon as the natural phenomena of the last weeks of pregnancy in a primipara do not develop, the question of interference or abstinence from interference must be seriously considered. This is true in some other conditions than contracted pelvis. Where the uterus is deficient in development and the child well developed descent and engagement may fail. Abnormal presentation and position complicate such a situation.

In multiparæ the history of a previous labor is valuable evidence. The progressive increase in

the size of children under favorable conditions is an element of importance. The mental attitude of the patient, her desire for a child, her age and other circumstances must all be considered. Induced labor does not properly compete with Cæsarean section, as both are intended to save the life of the child.

In multiparous patients who have had difficult and dangerous labors and who are brought to the attention of the obstetrician after efforts have been made to deliver the child, the choice of a method of procedure is sometimes difficult. Unless there is reason to believe that the patient has been in reasonably clean hands and that the child has a good chance for life, Cæsarean section should be declined for embryotomy. Enthusiasm in the performance of the operation has led to its improper performance in some of these cases.

In multiparæ who have a number of children living who can be supported with difficulty and where the mother shows the strain of repeated parturition, the question of birth control comes up in a very important and practical manner. With the consent of husband and wife, if the patient is seen before labor, elective Cæsarean section without labor may be chosen, followed by sterilization. If the patient is over forty, the best results in the experience of the writer, are obtained by the removal of the tubes and ovaries with supravaginal hysterectomy. This leaves the patient in the best condition for comfortable health, and if lactation can be established, the disagreeable symptoms of the menopause often become insignificant. This class of cases are especially commended to the attention of the profession, for these women should be freed from the burden of further child-bearing and also from the dangers of ovarian and uterine diseases which often develop in later life. If the cervix is in good condition it is reasonably safe to perform supravaginal hysterectomy instead of extirpation of the uterus. If there is reason to suspect the condition of the cervix, then extirpation is indicated.

In primiparous patients every effort should be made to continue the power of reproduction. If the patient is infected by repeated examinations

\*Address Presented at the Seventy-First Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 10, 11, 12, 1922.

and efforts to deliver, if the condition of the uterus is good and the patient has not had severe hemorrhage, an effort should be made to forestall infection by thoroughly cleansing the uterine cavity with sterile gauze and packing the uterus with 10 per cent iodoform gauze. Sapræmia will often develop in these cases, but if the uterus be kept tightly contracted the patient will recover without serious infection.

Three methods of operating are available, the classic section in which the uterus is turned out of the abdominal cavity through an anterior incision, closed and replaced; the so-called high operation where the abdomen is opened at or above the umbilicus, the uterus remaining in the abdomen, emptied of its contents and then closed; and the method of incision through the lower uterine segment. While the last was originally supposed to be extraperitoneal, experience shows that this is rarely possible. Some attempt to forestall infection by stitching together the abdominal and uterine peritoneum before opening the uterus, thus operating through a uterine and abdominal fistula. Monroe Kerr makes a transverse incision through the lower segment and Beck makes a two flap operation, attempting to protect the abdomen from infection by the double flap sutured over the line of incision.

The merits of the classic section and section by high incision are well established. Incision through the lower segment gives promise of good results but sufficient experience has not accumulated to give accurate data. In all three varieties the essential of successful operation consists in accurately closing the muscular tissue of the uterus. When this has been done this line of suture should be accurately protected by uniting the peritoneum over the first line of stitches. To avoid infection some operators push the placenta, membranes and cord through the cervix into the vagina, whence they are removed in the usual manner. A few English operators turn the uterus inside out before suture to avoid hemorrhage and to completely remove the membranes and as much of the decidua as possible by rubbing the inner surface of the uterus with sterile gauze.

The avoidance of hemorrhage during and after Cæsarean section depends upon accurate closure and upon the prompt contraction of the uterus. This can usually be obtained by gentle massage, by closing the uterus when retraction is well developed and by giving hypodermically, stimuli to promote uterine contraction. Some operators inject pituitrin into the uterine muscle as the uterus

is closed, others rely upon hypodermic injections of strychnia and ergot.

The intrauterine packing of iodoform gauze is efficient stimulus to uterine contractions and aids greatly in the prevention of hemorrhage.

It is recognized that Cæsarean section which is not followed by hysterectomy, leaves the patient with a uterus which may rupture in subsequent pregnancy or labor. A very careful survey was recently made of Cæsarean section in Great Britain. A recent number of the *Journal of Obstetrics of the British Empire* is devoted to the subject of Cæsarean section. Holland's careful study shows that in general the woman who has had a Cæsarean section has a risk of rupture of the uterine scar in subsequent pregnancy and labor of 4 per cent. This risk can be reduced very materially by employing a suture material in the uterine muscle whose knots are not easily loosened and which is absorbed very gradually or not at all. The ideal material for these sutures would be flexible silk work gut and next in value, the best quality of surgical silk and least safe, cat gut. Experience shows that cases in which infection occurs after operation, are usually liable to a bad uterine scar. Microscopic study of these uteri when removed subsequently, shows that the normal muscular tissue of the uterus is replaced by fibrous and connective tissue, this becomes thinned by the increasing pressure of pregnancy and is especially liable to rupture in pregnancy and labor.

An element of confusion has arisen in this matter from the fact that in certain cases of women in bad general health, who have repeatedly borne children, the uterus undergoes degenerative processes which predispose to rupture, and when rupture occurs in these cases, it is frequently not through the uterine scar, for the uterine scar may be the strongest part of the uterus, hence it is unfair to charge the operation with rupture in these patients.

An interesting point arises as to the general result of Cæsarean section as now practiced. Recent statistics show that clean cases operated upon by elective section, have a maternal mortality of considerably less than 2 per cent; each vaginal examination increases the mother's risk and so does each hour of labor with ruptured membranes. The most important factor in the mortality after Cæsarean section is unsuccessful effort to deliver preceding the operation. In cases of section done upon patients in whom an effort had been made unsuccessfully to deliver by forceps, the maternal mortality rises to more than 25 per cent. No more striking argument can be



adduced to the necessity of accurate diagnosis before the use of forceps is attempted.

A safe rule to apply in deciding upon the operation is to remember that the uterus of each parturient woman, no matter how carefully her labor is conducted and though that labor may be spontaneous, is practically infected in the few days following labor. This is shown by recent bacteriological studies which demonstrated the fact that bacteria from the vagina and cervix, streptococci and others, are present in the uterine cavity by the fifth day after labor. The fact that all women do not become infected is explained by the immunizing bodies in the blood of the mother, the tight plugging of uterine sinuses by aseptic thrombi, and efficient contraction of the uterine muscle. Aside from direct implantation of bacteria, hemorrhage most certainly predisposes to infection. Patients who have had hemorrhage during labor and on whom unsuccessful attempts have been made to deliver, are bad risks for Cæsarean section.

While this is true, desperate cases can be saved by hysterectomy provided the stump be left outside the peritoneal cavity. In the writer's experience a primipara during three days and nights of labor was subjected to attempted delivery by forceps, version and craniotomy, all of which were under anesthesia, considerable hemorrhage accompanied each attempt. She was then placed upon a cot in a railway car and brought eighteen miles to the hospital. On admission it was stated to her husband and sister that sacrifice of the uterus was the only remaining hope. On opening the uterus the interior was so foul in odor that one of the nurses present fainted. The wall of the uterus and its decidua were greenish in color. The Porro operation was performed with use of the clamp, the stump outside the abdominal cavity. This patient made a complete recovery.

It is worse than useless to perform Cæsarean section upon an infected patient and drop the stump after hysterectomy. Septic infection is practically sure to follow. In patients who recover from this Porro operation the condition of the pelvic region is excellent. The stump of the cervix is held firmly high at the pelvic brim, prolapse is impossible and the general health of the patient is good. In badly nourished women hernia occasionally develops but this is remedied by subsequent operation a year or two afterward. Hernia after the classic Cæsarean section or that by high incision or by incision through the lower segment is comparatively rare.

Adhesions are one of the most unfortunate after results of abdominal surgery. After Cæs-

arean section, adhesions between the anterior abdominal and uterine walls are not infrequent. Patients rarely complain of inconvenience after recovery but in subsequent pregnancy there may be pain caused by traction upon these adhesions as the uterus grows. In repeated Cæsarean section adhesions must be dealt with in accordance with their situation and extent. In the experience of the writer they have never been formidable. The presence of these adhesions was formerly thought to be a safeguard against peritonitis.

Where infection develops after Cæsarean section it usually arises from the interior of the uterus. Bacteria make their way along stitches in the uterine muscle, thence to the peritoneal covering and if adhesions are present they next attack the catgut which closes the peritoneum, following the same line through the fascia. An infected stitch hole abscess may cause an abdominal and uterine fistula. This may save the patient from a general peritonitis and the writer's never seen one of these fistulæ which did not subsequently close.

In general what is urgently needed is a thorough knowledge of the presentation and position of the fetus and the size of the mother's pelvis. In the first stage of labor the diagnosis of engagement, moulding and descent is of primary importance. The application of forceps to a floating head is the worst possible practice. Version without pelvimetry is equally bad. Unless the natural phenomena of descent and engagement develop in the last days of a first pregnancy, complications must be expected. Palpation and auscultation should prevent useless vaginal examinations. Examinations through the rectum the writer has not practiced. The choice of Cæsarean section should be made early in the progress of the labor and not as a last resort.

The second point of great importance is the general condition of the patient from which a fair inference may be drawn concerning the state of the uterine muscle. In ill developed primiparæ the uterus may be so thin and lacking in force that vaginal delivery at term may be more dangerous than section. In all pregnant patients who are highly toxic the uterine muscle is dangerously injured by the toxemia. In multiparæ who so often have fibroids and fatty changes in the uterine muscle, the danger of uterine rupture during labor must not be forgotten.

Cæsarean section is often indicated to save not only the life of the mother but the life of the child. The general mortality of infants born after Cæsarean section is approximately 3 per cent. This does not often arise from the operation itself

but from the conditions which indicate the operation. Birth pressure in long continued labor, followed by asphyxia and cerebral hemorrhage, is one of the most frequent causes of fetal death. It is useless to subject the mother to the risk of radical operation if she be so toxic that her fetus will die shortly after labor from toxemia. Some of the most excellent results seen from section are in placenta previa when the mother has had but one sharp hemorrhage and prompt operation delivers a vigorous child and saves the mother. In accidental separation of a normally implanted placenta the child is always exposed to risk of asphyxia from intra-uterine bleeding.

A difficult decision at times is the choice between leaving and removing the uterus. The hæmolytic property of the blood of the pregnant woman may occasion a condition of the uterine muscle known as necrobiosis accurately described by Couvelaire and others. The uterine muscle at operation is found dark currant jelly color, much softer than normal and of such consistency that stitches will not safely hold. This is especially well developed at the placental site. In these cases hysterectomy may become imperative.

Who shall perform Cæsarean section? The technical performance of the operation is rarely difficult, but a thorough knowledge of obstetric diagnosis and experience with parturient women are necessary for a wise decision to operate.

The general practitioner has been called by some the great obstetric specialist. The fact that there has been no recent improvement in the mortality and morbidity of parturition in private houses does not indicate his especial success. The reason for this state of affairs lies in the fact that labor, spontaneous or otherwise, is a surgical procedure to be conducted with surgical cleanliness in all cases.

The general practitioner has the most interesting and important specialty in medicine, that of diagnosis. The fate of a parturient patient often lies in the hands of the man or woman who first sees her. With improved roads, motor cars and many hospitals, it is rarely impossible when a diagnosis is made that operation is necessary, to convey a patient to a hospital where an obstetrician cannot be summoned to deliver her.

In general, it may be said without exaggeration, that delivery by abdominal incision has robbed contracted pelvis of its terrors for mother and child. It has greatly lessened the mortality and morbidity of disproportion between mother and child provided previous attempts at delivery have not been made. It has greatly lessened the mortality and morbidity of the more dangerous

varieties of placenta prævia. It is occasionally useful in eclampsia, prolapse of the cord, shoulder presentation and abnormalities in the structure of the uterus.

With your kind permission I will show slides of uteri removed from patients who previously had Cæsarean section performed by the classic method. In all of these the uterine muscle was closed by silk, the peritoneum of the uterus, of the abdomen and the fascia by cat gut. The abdominal skin by silk worm gut. In many of these cases packing was used, in others it was not. Some of these uteri ruptured in subsequent labors and one uterus was removed by elective section from a woman in a highly toxic condition.

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### THE HUMAN BREAST, A PLEA FOR WELL DIRECTED TREATMENT BASED ON MORE ACCURATE DIAGNOSIS\*

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One of the great advances today in the profession of medicine is the changing attitude concerning health and disease. Gradually, the emphasis is being placed upon health maintenance rather than upon the cure of disease. Co-incident with this comes a nation-wide campaign along health lines, the hygienists advocating examination at definite intervals for the early detection, recognition and treatment of disease.

In the industrial and mercantile world the value of good health, from an economic standpoint, is being recognized, and there is a tendency to apply the efficiency expert in medicine, surgery and sanitation, as well as in various business and industrial pursuits. Many insurance companies, merely as a matter of business, are retaining corps of physicians and nurses to help prevent serious illness and possible fatality by the early detection of disease. The United States Bureau of Mines is constantly making experiments in an effort to lower sickness and mortality rates among miners, factory workers, and laborers of all classes. National, state and local boards of health are repeatedly stressing the importance of preventive measures. In special fields the American Association of Cancer Prophylaxis is one of the many organizations doing very useful service. Other agencies are emphasizing these points, but the examples quoted are sufficient to prove the trend of our times.

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\*Read before the Tri-State Medical Society, Waterloo, Iowa, October 4, 5, 6, 7, 1920.



Thus, from these many sources, the public is urged to consult the physician at any deviation from the normal—in fact, it is asked to come from time to time, even though there is no evidence of disease. It is recognizing the force of these arguments and is slowly responding. The patients who come justly demand a recognition of all the aspects of the individual case.

The medical profession must be keenly alive to the importance of developing its ability to diagnose cases in their early stages. At times it has the unfortunate attitude of underestimating minor conditions and mentality pronouncing the symptoms merely those of hysteria. Physicians should not be so engrossed with acute illnesses, acute conditions, and more advanced pathology, as to fail to realize the importance of a thorough examination of all patients who seek medical care and attention, no matter how trivial the complaint may be for which they come. Early detection of an almost hidden danger signal may result in sparing the patient much future mental and physical suffering.

There is always the danger of overestimating, as well as under-estimating, pathological conditions. Many can remember the period of the massacre of the ovaries, later of the appendix, then of the tonsils and colon, and more recently of the teeth. Is it possible that in the attempt to prevent cancer there may be the risk of another period of unnecessary sacrifice—that of the human breast? By way of illustration, there is the patient who discovers a lump in her breast and delays her visit to the physician by visioning mentally over his door, a sign which reads, "Abandon hope of escaping a terrible operation, all ye who enter here." On examination the physician may fail to weigh in the balance all the non-malignant possibilities involved, and permit her to leave his office with the belief that operation is the only means of saving her life. Accepting this verdict, the patient may be subjected to an unnecessary mutilating operation for a benign condition.

In contrast, there is the patient who receives, but fails to accept the advice of radical operation, and who drifts from physician to physician or from quack to quack for help. When the condition is a benign one the patient may be cured of a so-called "cancer" in spite and not because of the physician's advice, and therefore may be added to the host of those who spare no effort to influence the laity against the recognized profession. She points to herself as a living example of escape from cruel surgery. For this reason, the blanket rule of prescribing radical operation in

all doubtful cases may act as a deterrent to those who most need care and observation. Frequently, the short delay in consulting the necessary authority constitutes the difference between the benign and the malignant stages of a tumor.

The public should be taught to come; taught that any lump is a great danger; that to consult a physician is the only safe method that an examination does not absolutely mean a radical operation. The profession must realize its responsibility and seek to deal with the individual case on the merits of the conditions present, in the light of all that is known to medical science. It should be equipped with all the facts—not those of ten years ago, not those of yesterday, but the facts of today, and adequately be prepared to meet these seekers after truth by having at its command all the established current data of the profession, and then, only after deliberate consideration of all the evidence obtainable, render the verdict.

Medical knowledge concerning breast conditions, is not sufficiently definite to warrant many dogmatic conclusions. There is an accumulation of material concerning which there is much academic disagreement. Information must be unified, standardized, and placed before the laity in a form which is thoroughly comprehensible. Only such vital phases of medical subjects as have received the practical unanimous approval of the profession should be released for the guidance of the general public. It is an unfortunate fact that some of the most eminent authorities disagree on essential as well as on non-essential points. For example, one surgeon states "that every lump which appears in a woman's breast should be removed forty-eight hours after it is discovered."

Another authority says, "When the question arises between chronic mastitis and carcinoma it is usually the safest procedure to remove the breast, and \* \* \* if no malignant process is found, one has merely removed a menace to the patient."

In comparison, a well known author writes, "Those who have served apprenticeships in the laboratories of hospitals will admit, and all men of experience know, that frequently radical operation is performed for simple lesions. I have observed this in cases of single fibro-adenomas, interstitial mastitis, and simple lobulation in a developing breast. Once I examined a pair of breasts, removed from a young woman by a specialist in diseases of children, and to this day I have been unable to find any excuse whatever for their removal. The Doctor was in doubt. \* \* \* I believe it is a greater error to subject

a young woman with a simple benign lesion to a radical operation than it is to fail to extend to a woman the 20 per cent chance in case of actual carcinoma. \* \* \* The platitude that it is better to sacrifice a dozen suspected breasts than to overlook a single case of carcinoma has long served as a cloak for ignorance of the finer pathological changes in the gland."

Recently, a leading pathologist made the statement "that he based more faith on clinical methods, carefully applied by a skillful person, than on other means of diagnosis at the present time. He said it was a strange fact that the clinician always insisted that the laboratory methods be applied to diagnosis, while the laboratory worker favored clinical methods—palpation, inspection and observation for a period of time, and that he had spent a great deal of time in the laboratory and preferred to base his diagnosis upon careful clinical methods. There was, he supposed, a common ground where laboratory worker and clinician would some day meet." \* \* \* He added, "A physician does not impress other physicians or the public by applying the blanket rule to all breast tumors and insisting that every lump in the breast be excised. In distinguishing between malignant and benign tumors of the breast it is important to take into consideration the age of the patient, location of the lump in the breast, consistency of the tumor, history of the organ and all features of the case and in this way one can usually reach the diagnosis. The failure to recognize cancer is often due to lack of proper physical examination."

However, the following radical views from recognized authorities, have also been published:

"Cases of secondary hyperplasia should be considered as precancerous, and while they do not require so extensive an operation as the removal of the underlying muscles together with the axillary glands, yet no portion of the mamma should be left.

"In the surgery of mammary tumors, I am convinced, however, that to insure the greatest good to the greatest number, would be to advocate the removal of every tumor bearing breast.

"Every benign tumor of the breast should be removed before it has an opportunity to become carcinomatous. In other words, it should be removed as soon as recognized."

At a recent medical meeting a surgeon said, "that he would today submit every portion of a breast with a blue dome cyst to careful microscopic examination, and any breast, it made no difference what the gross appearance, where there existed one or a dozen cysts, regardless of

the size of the cysts, should always be examined with the microscope. He had seen cysts removed and the patient come back with cancer of the breast."

In answer to this statement, another surgeon responded "that he did not care how the diagnosis was made, but if a whole breast must be had for examination, how could the breast be saved? The 'take out' policy would mean the mutilation of every woman with a lump in her breast."

The foregoing are but a few of the radical and conservative statements, the pros and cons of which must be carefully weighed before any definite conclusion can be reached. To radically remove the breast in all doubtful cases eliminates the development of malignancy for all time, and therefore safeguards the surgeon's reputation, but is this attitude a just or a scientific one? Considering the patient and remembering the number of unfortunate ones who have suffered unnecessary breast amputations, it seems imperative to say that the radical breast operation should be performed only after very careful consideration of all signs and symptoms.

Many patients suffering from cancer come too late, but it is equally true that there are changes of the breast simulating cancer, and these must be taken into consideration before making an accurate diagnosis. The physician must be ever on the watch for the frequent non-malignant breast conditions. Abscess, actinomycosis, catarrh, eczema, Hodgkin's Disease, intestinal and other toxemias, ovarian disease, menstruation, disturbed endocrine function, hyperplasia, mastitis, rheumatism, senile hypertrophy, congenital deformity, hæmatoma, traumatic fat necrosis, syphilis, tuberculosis, simple lobulation in the gland of the young maturing female, and the lumps which are prone to remain in the mammae of the child-bearing woman after lactation has ceased, are causes which often create suspicious masses in the breast region. To these may be added the benign tumors, as: adenoma, chondroma, cysts, fibroma, lipoma, myxoma, osteoma, and their combinations, adeno-cystoma, fibro-adenoma, cystic-adenoma, etc.

During years of practice the writer has examined large numbers of benign breast conditions, many of which were referred to him as malignant. Frequently, he has found it necessary to reduce an inflammatory condition before definitely deciding whether or not there was an underlying cancerous process. Some of the patients had retraction of one or both nipples, and others had one breast higher or larger than the other.



By obtaining a full history and with careful observation these conditions were proved to be of congenital origin, and not in any way pathological.

In a recent tabulation of the first 2000 alphabetically arranged histories in the author's office files, the analysis showed 225 cases of benign breast conditions, and eighty-five cases of mammary malignancy. None of those diagnosed as benign has, to the writer's knowledge, developed malignancy and all those clinically diagnosed as cancer were proved to be such by pathological examination of the specimen. The following illustrative cases are reported in brief, covering only the points relevant to this paper, not because of the unusual aspects of the cases, but to emphasize the fact that there are many pathological changes in the mammae resulting from disorders in other parts of the body, which, without careful examination might be mistaken for cancer.

NOTE: In a paper read before the American Association of Obstetricians, Gynecologists and Abdominal Surgeons in September, 1920, I spoke of the many breast lumps caused by stasis and read reports of twenty-five cases, some of which had been under observation from fifteen to eighteen years, where the lumpy condition and even well defined tumors of the breast had disappeared under treatment for intestinal toxemia.

1. Intestinal stasis cause of lumpy breasts.

L. F., age thirty-five, female, married, two children, nursed both.

Patient consulted me March, 1920, for retraction of and eczematous discharge from left nipple; considerable elongation and lumpiness of the upper, outer quadrant of the breasts; two small glands felt in left axilla.

Previous to consulting me the patient had seen two well known surgeons, one of whom had advised radical operation, stating to her "that there was no cancer but that the breasts were no good and she might as well have them off." This surgeon also wrote to the family physician: "I would urgently advise removal of both breasts."

After careful examination of the patient, and weighing well all the points. I was convinced that radical operation was not called for and accordingly recommended as follows: "Under no circumstances at the present time, without a fair trial of preliminary measures, would I submit to operation. After a month of treatment, we can definitely determine what progress has been made."

I then prescribed a brassiere to relieve all pull on the upper, outer quadrant; bicarbonate of soda baths; milk of magnesia internally; colonic irrigations; tonics; wholesome diet; bland ointment on nipples and large quantities of alkaline water, at the same

time impressing the importance for frequent examination.

July, 1920 the patient returned for an examination. The lumps in the axilla had disappeared entirely; the right breast was less lumpy; the left breast better; the discharge materially lessened in amount and less irritating to the skin. The eczema about the areola had disappeared; the feel of the breast was almost normal and the general condition of the patient good.

The results already secured in this case make it clear that we have to deal with an inflammatory and not a malignant process.

2. Stasis breasts.

C. B.,<sup>1</sup> age thirty-seven, female, married, no preg-

Patient consulted me February, 1914, for a lumpy condition of the left breast. There was also a mass in the right mamma which a surgeon, whom the patient visited, declared malignant. As the tumor in this breast was well defined, I advised conservative operation. This was done and the pathological report proved my diagnosis of benign neoplasm correct. After operation on the right breast, and medical treatment for intestinal toxemia, the left breast cleared and in July, 1920, the patient reported both breasts normal and her general condition excellent.

3. Stasis breasts.

A. B.,<sup>2</sup> age twenty-five, female, widow, two children, nursed both.

Was always constipated and in March, 1915, began to have severe pain in the right lower quadrant of abdomen. In December, 1915, a lumpy condition was noticed in left breast, with bloody discharge from nipple, which was present when I saw the patient in February, 1916. There were also glandular lumps in the upper, outer quadrant of the breast; distinct tenderness in right iliac fossa, along the head of the cecum and over the appendix. X-ray examination proved this a case of chronic intestinal stasis. After abdominal operation there was a slight discharge from the nipple for one week, after which breast cleared up. Patient is now in perfect health, and breasts are absolutely normal.

Previous to consulting me, this case was diagnosed by several clinicians as cancer, and radical and immediate amputation of the breast advised.

Note: It should be remembered that in a large majority of cases some milk remains in the breasts of women who have borne children and especially in those who have nursed them. It is not the discharge that is important, but the character of the discharge.

4. Congenital malformation of the breast.

H. S.,<sup>3</sup> age thirty, female, single.

Patient was operated upon in 1915 for intestinal stasis associated with a general lumpy condition of

1. Preliminary reports in "Cancer Problem" and "Benign Mammary Tumors and Intestinal Toxemia."

2. Preliminary reports in "Women's Medical Journal," May, 1917 and "Benign Mammary Tumors and Intestinal Toxemia."

3. Preliminary Report in "Benign Mammary Tumors and Intestinal Toxemia."

the breasts. After abdominal operation, the lumps in breasts disappeared with the exception of an enlargement of the second costal cartilage under the right breast, which, previous to seeing me, had been diagnosed as a definite neoplasm. The characteristic feel of this might easily have led one to believe that it was an extension of a cancerous process from the breast. However, after careful observation, I diagnosed it as a congenital malformation. It had not changed in either size or form during my five years treatment of the case, and when I last saw her, both breasts were normal except for this slight deformity.

5. Hodgkin's Disease of the Breast.

E. N.,<sup>4</sup> age thirty-two, female, married.

This patient, two years before consulting me, had noticed an enlargement of the thyroid gland and about a year later a tumor appeared on the right side of the neck and another at the upper, outer margin of the right breast, extending into axilla. Six months previous to operation, a piece was taken from the tumor in the neck at a hospital in a neighboring city. The report was lympho-sarcoma, and the case considered beyond the hope of cure by operation. Patient grew steadily worse and exhibited pressure symptoms in the neck. As a palliative procedure, I removed tumors as far as possible, with extensive ligation of large vessels, and applied radium. The pathological report proved the case Hodgkin's Disease. The patient lived for several years, but ultimately died of the disease which had extended into many organs.

6. Lumpy condition of breast as result of tonsil infection.

S. K.,<sup>5</sup> age thirty-one, married, no children, female.

First consulted me in January, 1917, for lumpy condition of both breasts. After operation for intestinal stasis breasts cleared entirely and patient made excellent recovery.

In 1919 she had influenza and later developed repeated attacks of infection of the throat. During these attacks the breasts became lumpy and showed a condition of mastitis throughout, as a result of the tonsil infection.

7. Apparent malignant recurrence.

E. M., age about seventy, single, female.

In 1909 I removed the right breast of this patient for carcinoma; the left breast had been removed some years previous. Later an appendectomy was performed.

In 1912 small nodules developed on the chest wall over several of the costo-chondral articulations, near the scars of the breast operations, more marked on the right side. These were considered by several as malignant recurrence. The nodules were diffuse, very tender and painful, especially in cold and damp weather. I made a diagnosis of systemic condition, and not of malignant recurrence. The patient was kept under close observation and given treatment for

acidosis. The lumps disappeared entirely, and the patient is today perfectly well.

8. Eczema of the nipple.

K.,<sup>6</sup> age twenty-six, female, single.

Patient had lumpy and painful condition of right breast due to pyogenic infection from eczematous ulcer of the nipple, which had persisted for some weeks. Because of the appearance of the breast and enlargement of the axillary glands, her doctor advised removal of the organ for carcinoma. A few days of proper treatment caused the eczema and lumpy condition of the breast to disappear.

9. Syphilis of the breast.

P.,<sup>7</sup> age thirty-eight, female.

Patient gave a history of having been well and strong until two years before consulting me, when she commenced having pain, more or less continuous, in the upper part of the right breast. Examination showed enlargement of the external ends of the second, third and fourth ribs on the same side. This was verified by x-ray examination according to which the pleura and lungs were not involved, and the bone changes not sufficiently characteristic to justify stating whether this was sarcoma or some benign growth. Wassermann and Noguchi tests both proving positive, the patient was placed on iodid and mercury and later given salvarsan followed by mixed treatment. The enlargements, under these measures, disappeared and five years later the patient's physician reported her perfectly well.

10. Pelvic condition causing lumpy breasts.

A. S.,<sup>8</sup> age thirty-two, female, single.

Two years before seeing me patient had an operation for a uterine condition. She consulted me July, 1919, for irritation of the bladder, severe pain in back and ovarian region, together with a lumpy condition of both breasts.

Laparotomy was performed, and I found a much enlarged uterus with a considerable number of fungosities, a mass of adhesions which extended back of the uterus down to the cul de sac, a fibro-cystic right ovary, deep in the pelvic cavity, surrounded by a mass of omentum tightly adherent to the uterus in front and to the rectum behind. The mass was about the size of two hen eggs. The operative conditions were corrected, and in August, 1920, the patient reported that the lumps in the breasts had disappeared entirely; she had gained twenty-seven pounds since the operation and was in excellent condition.

11. Tuberculosis of the breast diagnosed as sarcoma.

M. C.,<sup>9</sup> age fifty-five, female, married, five children.

Examined patient who for three years had a hard nodular swelling in the axilla, with involvement of the breast, and who during these years, had been

6. Preliminary report in "Conservation of the Human Breast," Int. Jour. Surgery, July, 1915.

7. Preliminary report in "Conservation of the Human Breast," Int. Jour. Surgery, July, 1915.

8. Preliminary report in "Benign Mammary Tumors and Intestinal Toxemia."

9. Preliminary Report in "The Cure of the Incurable," American Medicine, July, 1915.

4. Preliminary report in "Conservation of the Human Breast," Int. Jour. Surgery, July, 1915.

5. Preliminary report in "Benign Mammary Tumors and Intestinal Toxemia."



operated on for this breast condition twice—a fistula in the axilla following the first operation. When I first saw the case, the mass was nearly the size of the entire breast—painful on pressure. The arm, too, was painful and much enlarged. Two specialists had declared the case advanced sarcoma, one physician telling her family that she could not live beyond a few weeks. The patient was given morphine so that she might be spared as much suffering as possible.

After careful examination I diagnosed the case as inflammatory—possibly tuberculous—and decided to give her a chance by extensive operation. This was done and pathological report proved the diagnosis of tuberculosis. After an uninterrupted recovery she was discharged from the hospital in two weeks.

Two years later she was reported as well, but since that time I have lost track of her.

#### 12. Disturbed endocrine function causing lumpy breasts.

L. N., age forty-two, female, married, one child.

Patient suffered from neurasthenia and hypothyroidism. Her weight increased until she averaged two hundred pounds. There were lumps in both breasts, and pressure on the mammae caused a certain amount of fluid to exude. The history of bloating, the added fat, the heart symptoms and the pigmentation and dryness of the skin all pointed to a disturbance of the internal secretions. Thyroid and multiple glandular secretion were administered and the excessive fat reduced. As long as the patient persisted in the treatment, the lumps in the breast disappeared, but on suspension of the medication they invariably recurred.

In August, 1920, the patient wrote that she was continuously on the multiglandular treatment, that she was in excellent condition, and that her breasts were perfectly normal.

Note: In connection with this case, it is an interesting observation that the masses in the mammae, which were relieved on the basis of endocrine dyscrasia, were in the same relation to the gland—upper, outer quadrant—as those resulting from stasis or frequently seen during the catamenia.

Not only should the surgeon endeavor to be so qualified as to recognize the benign and malignant growths of the breast, as far as is clinically possible, but he should also have a very definite knowledge of the principles underlying the methods of examination. He should bear in mind the fact that the very life of his patient may depend upon the way he manipulates the tumor mass. The patient herself, or the solicitous friend may do damage by manipulating the breast, as may the doctor when he examines the case, or the surgeon when he operates. Nature erects natural barriers to protect the various cells of the body, but pressure along the blood-vessels or along the lymphatic glands may cause malignant growths to reproduce themselves in locations other than the original site, by extension through those channels.

Despite all that has been written on the subject of biopsy, it is but a short time since the board of health of a large city requested the profession to cut into suspicious lesions—without one word of caution about protecting the patient against the possible spread of metastases—and submit small particles for examination, promising that a report on the tissue would be forthcoming in from twenty-four to thirty-six hours. Because of this attitude it seems necessary to emphasize once more the extent to which a patient's life may be jeopardized by biopsy for the purpose of pathological diagnosis. Cutting into a neoplasm of the breast, or any other part of the body, may cause such a dissemination of the cancer, if cancer be present, that subsequent operation will be of no avail. When the growth is at a difficult site, so that it cannot be completely removed, and pathological examination is necessary, the danger will be diminished by incising with the cautery knife or cauterizing the cut surface—destroying all the cells in the neighborhood and blocking the avenues of extension. A safer procedure is to examine the specimen by the frozen section method. However, there is also a chaotic state in this particular field, for some pathologists refuse to make a diagnosis on frozen section while others feel it is safe to do so.

In the light of present knowledge may not the following conclusions be drawn with safety, keeping ever present in mind the terrible sword of Damocles—cancer of the human breast?

1. The laity is coming earlier, in increasing numbers, for examination.

2. Opportunity for service, on the part of the medical profession is being increased in proportion as the public responds to its summons.

3. The profession must develop a higher degree of diagnostic ability than in the past and possess itself of all the essential facts concerning breast conditions.

4. A judicial attitude must be maintained—careful examination with well poised judgment.

5. Accurate diagnosis of abnormal breast conditions means and demands a careful systemic survey as well as an efficient local examination.

6. The human mamma may be the seat of changes purely inflammatory or of neoplastic nature, closely simulating malignancy.

7. The relationship between the internal genitalia and the breast has been well established. Correction of abnormal pelvic conditions may ameliorate or relieve certain mammary changes.

8. The relationship between chronic intestinal stasis and certain breast conditions seems to be proved. Toxemia from teeth, tonsils and other

parts of the body, may also have its effect upon the mammary gland.

9. Serious conditions are often overlooked while they are as yet amenable to the simplest measures of non-surgical treatment.

10. The use of the terms "breast" and "mamma" as synonymous may increase the difficulties of diagnosis. The writer believes it would be helpful to confine the term "mamma" to the gland with its ducts, including its outlet, the nipple; "breast" as embracing the entire "mamma" with all else that surrounds it—the skin, fat, fascia, capsule, and the bed upon which the gland rests, the fascia, muscle, and bone with the cartilage, in juxtaposition to the "mamma."

11. Any of these structures may be diseased, and a multiple pathology be present, rendering diagnosis more difficult.

12. Abnormal conditions, congenital or acquired may be present in neighboring structures, and lead to wrong diagnosis of cancer, or if malignant disease is present, lead to the diagnosis of the inoperable and incurable stage although the neoplasm is early and surgically curable.

13. In spite of present knowledge, it is impossible at times to arrive at an immediate accurate diagnosis. In justice to the patient it may be necessary to keep her under careful observation, treating general conditions, before proceeding to radical surgery. If then, mistakes will occur, it should be the earnest endeavor of the profession to make them fewer and fewer.

14. It is reasonable to assume that with the early recognition of some lumpy conditions of the breast, followed by adequate systemic treatment, and mechanical support, underlying factors of malignant disease may be removed.

15. A question naturally arises: If all the foregoing is true, may it not be that in that multiplex disease grouped today under the term "cancer," there are possibly causative factors underlying malignant disease in the toxemias and the heterological activity of the endocrines. This seems to be a very promising field of research.

16. When cancer is present beyond a reasonable doubt, radical surgery is absolutely indicated.

To allow a patient to drift beyond the hope of surgical cure is a terrible tragedy; to unnecessarily and radically remove a woman's breast may be a profound calamity. With a deep sense of the limitations in the art of exact diagnosis and of the greater responsibility today in the enlarging field of service for humanity, let the profession ever be guided by the watchword "Not Fears but Facts."

## SUPRAPUBIC PROSTATECTOMY: TECHNIC AND AFTER RESULTS\*

GEORGE E. DECKER, M.D., Davenport

Patients presenting themselves for relief of prostatic obstruction may be divided into two groups: those whose bladders are not yet infected and those having more or less cystitis.

The clean bladder has a thin, possibly atonic, wall and admits of almost unlimited dilatation. Such a bladder may present the condition of retention with overflow, the residual urine in some cases amounting to forty or fifty ounces, while the amount voided at each attempt at urination is but an ounce or two. With marked over-distention of the bladder the back pressure on the kidneys is considerable; however it has developed and increased very gradually and the kidney has in the same gradual way managed to overcome the pressure and maintain its secretory function.

The infected bladder has usually become so through catheterization or other attempts at relief and its wall is thick and inelastic and does not admit of marked distention. The amount of residual urine is small compared with that found in the clean, thin walled bladder, but the symptoms are usually much more urgent because of the intolerant condition of the organ. The pain and suffering and the resulting loss of sleep adds greatly to the systemic effects of the infection itself. Back pressure on the kidneys is of less importance than in the clean group of cases.

It is true that a clean and over distended bladder may become infected and then soon becomes contracted, but an infected and contracted bladder practically never dilates. The above general consideration of the bladder condition found in prostatic obstruction leads to the conclusion that all supra pubic prostatectomies should be done by the two step method and for the following reasons:

In the clean class of cases the patient rarely presents himself until back pressure on the kidney has developed. The sudden relief of this back pressure by emptying the bladder or by suprapubic drainage seriously upsets the balance of kidney function, a renal congestion occurs and excretion may almost cease for a time. If to this disturbance of kidney function is added the shock of operative removal of the prostate the combination may overwhelm the patient, especially if he be an old man. Therefore an over-filled bladder should be catheterized very cautiously, an increasing amount being removed once

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a day until on the third or fourth day it is completely emptied. Only after a day or two of complete catheterization can suprapubic drainage be done safely and even then the average patient experiences quite a disturbance. There is a different reason for preliminary drainage of infected cases and since back pressure is not an element, preliminary catheterization is not necessary. Free and continuous drainage rapidly reduces infection, after which the prostate may be safely removed.

General anesthesia is not required for the preliminary cystotomy. Infiltration with one-half per cent solution novocain with adrenalin is done while the patient is in his bed. Twenty or thirty minutes later he is taken to the operating room, the bladder emptied by catheter and filled with saturated boric acid solution. This holds the bladder wall well up above the symphysis, permits of very gentle technique in opening into the bladder cavity and also floods the operative wound with a clean fluid instead of urine. A mark with an anilin pencil one inch from the end of the drainage tube survives the boiling and permits of accurate adjustment of the tube in the bladder, as it can then be sewed to the fascia over the recti muscles with the certainty that its inner end is not pressing upon the base of the bladder and rendering the patient miserable. The tube stitch of chronic gut is in the fascia and not in the skin as the patient will be out of bed in a day or two and will be very unhappy if every move of the tube saws the stitch through the sensitive skin. Bladder wall, muscle fascia, and skin are sewed snugly about the tube and a water tight joint results which is very satisfactory.

The reaction which often follows this simple, painless and bloodless procedure is all out of proportion to the extent of operative disturbance of tissue and is evidenced by nausea, anorexia, marked reduction of urine quantity and an increase in albumin and tube casts in the urine. This reaction is the result of the sudden imbalance into which the kidney is thrown when the back pressure of months or years is suddenly reduced to zero. The patient with the infected bladder has but little "imbalance reaction" his greatest risk being extension of the infection into the pre-vesical space of Retzius. To avoid this, coaptation of tissues about the tube should be accurate and a wider tube used than in clean cases.

The interval between the preliminary cystotomy and the removal of the prostate should be long enough to permit the patient to reach the best physical condition possible and this may be measured by his subjective symptoms. Temper-

ature, pulse rate, blood-pressure, thalein output, are important and should be noted from time to time but if the patient does not volunteer the information that he feels better and if he does not develop an appetite for three fair meals a day his condition does not yet warrant the second operation.

It is the writer's opinion that return of appetite and a cheerful and hopeful outlook are the two symptoms that best determine the safety of further surgical interference.

Prostatectomy itself is never an emergency procedure and, except in case of intra vesical hemorrhage, even the cystotomy may wait upon the careful preliminary catheterization. Therefore, the patient's safety must never be jeopardized by over-anxiety to complete the job; the operation is divided into two steps for a definite purpose and the proper interval is the one that achieves this purpose however many days or weeks may be required.

The removal of the gland is done under general anesthesia, preferably gas-oxygen after a preliminary hypodermic of pantopon or morphine. The bladder is washed out with boric acid solution and the suprapubic wound enlarged so that the bladder may be explored by the finger. The left hand, covered by two new rubber gloves, introduces two fingers gently into the rectum while the right hand, bare, introduces the index finger into the prostatic urethra. The prostatic urethra splits and permits the finger to find the line of cleavage between the gland and its sheath. Enucleation may be completed in two or three minutes or may present considerable difficulty, but in any case the bimanual procedure here described permits of co-ordination between the operator's two hands, which is impossible if an assistant attempts to support the gland through the rectum. By the use of two gloves on the left hand all danger of soiling is avoided and in the later stage of the operation these gloves may be quickly replaced by a fresh one.

It is a distinct advantage to begin the enucleation on the far side of the gland, working toward oneself, and having the nearest and easiest part to do last, when the finger becomes tired.

As long as the gland is attached to the urethra it remains snugly in its place though separated from all its other attachments and while thus in place serves to restrain bleeding in the same way as do the Hagner rubber bags. After the urethral attachment has been severed and the gland is free in the general cavity of the bladder, the prostatic cavity or pouch is quickly massaged bimanually, much as a bleeding uterus is managed, and

in a few minutes the cavity is so contracted as barely to admit the finger tip. No effort is made to remove the gland from the bladder nor to remove the left fingers from the rectum until the prostate cavity is well contracted.

An assistant now introduces a full sized soft rubber catheter through the urethra and the operator, by means of the fingers still in the rectum and the right index finger in the bladder, guides the catheter into the bladder where it is to remain for two to three days. Bleeding being controlled and the catheter in place, it is proper to remove the gland and larger clots from the bladder and introduce the large suprapubic tube. The same caution is used to avoid pressure of the tube against the base of the bladder and the tissues are brought together around the tube in three layers. With catheter and tube in place the bladder is irrigated with hot boric solution just enough to assure the patency of both tubes after which a voluminous dressing is applied. The suprapubic drain is attached to a tube running to a receptacle at the bed side, and particular care is taken that the glass connecting tubes have the widest possible lumen. The end of the catheter is bent over and included in the dressing.

Within eight or ten hours irrigation should be done through the catheter to assure the absence of clots in both tubes and is repeated whenever drainage is interfered with. Free drainage is very essential, in order that the prostatic cavity may not be distended and bleeding started or prolonged. The patient's discomfort and pain is the surest sign that the tubes are obstructed and every effort must be made to clear the tubes and restore comfort.

No irrigation is used after the second day, as the blood no longer clots and the tubes remain clear. The catheter is removed during the third day after operation, and is well tolerated if both tubes are kept clear. The pain attributed to the catheter in the urethra is more often due to faulty drainage and intra-vesical pressure.

Usually the red color of the drainage disappears in about five days, and the suprapubic tube may be removed and the wound encouraged to heal. A little urine finds its way through the urethra about the twelfth or fifteenth day after operation, and free urination is established by the twentieth or twenty-fifth day. Epididymitis is a frequent and serious complication. It is caused by extension of infection from the prostatic cavity down the vas and is more frequently seen if much urethral irrigation is done.

Late contraction of scar tissue at the bladder outlet occasionally requires gradual dilatation

with sounds, though this complication is less frequent than might be expected.

#### CONCLUSIONS

1. Prostatectomy is never an emergency operation and permits ample preparation of the patient.
2. Preliminary suprapubic drainage re-establishes kidney function and reduces cystitis.
3. The interval between bladder drainage and removal of the gland should be long enough to restore the patient to health.
4. Bleeding at operation is best controlled by bimanual massage of the prostatic cavity.
5. Free post-operative drainage must be assured, but irrigation is used only to clear the tubes.
6. Every detail of technique which adds to the patient's comfort decreases the operative risk.

#### ECTOPIC GESTATION AS A VITAL SUBJECT TO THE PATIENT AND TO THE PRACTITIONER\*

CORAL R. ARMENTROUT, M.D., Keokuk

Ectopic pregnancy is one in which the fecundated ovum develops outside the uterine cavity.

These cases are divided under three heads, tubal, ovarian and abdominal.

Tubal pregnancy develops in some portion of the tube, it is the one occurring most frequently and is caused by the lodging of the ovum somewhere in the tubal canal.

Ovarian pregnancy occurs in the ovary itself but this is an exceedingly rare condition.

Abdominal pregnancy is secondary to rupture of a tubal pregnancy, or to a tubal abortion.

Tubal pregnancy is found most frequently in the central part of the tube, occasionally near the fimbriated end and when it occurs there the ovary forms a part of the sack wall, and more rarely we have the ovum lodging in the uterine end of the tube. It will be seen therefore that abdominal pregnancy is really only a follow up of the first classification as I question whether an abdominal pregnancy would ever occur except following a tubal abortion.

Inflammatory changes in the tube which have destroyed the cilia are accepted as one of the predominating causes of arrest of the ovum through the tubal canal, but any condition which arrests or delays the transition of the ovum from the ovary to the uterine cavity is a causative factor

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in its establishing itself in some location beyond the uterus.

When the fecundated ovum, covered with ectodermal cells or trophoblasts become fixed in the tube, it cannot eat its way into the structure of the tube as it does into the uterine mucous membrane, consequently, there is an absence of decidua.

Then as the ovum develops the walls of the tube are gradually thinned and may be perforated by villa, which condition itself may be the cause of rather profuse hemorrhage.

The walls of the tube are capable of a fairly limited degree of dilatation, so that a rupture of the tube usually occurs about the sixth week or shortly after this time.

If the attachment of the ovum is near the fimbriated end of the tube, a tubal abortion is likely to occur at about this time, with a discharge of the sack into the cavity of the abdomen, thus if the pregnancy continues it is changed from a tubal to an abdominal type.

A pregnancy occurring near the corner of the uterus may dilate the uterine end of the tube so that it will be discharged into the uterine cavity where it may continue to develop as a uterine pregnancy. This fortunate occurrence however, is very rare. It may rupture into the abdomen as in pregnancy in the center of the tube, with the exception that the hemorrhage from a rupture in this location is usually much more violent than from the one at the center of the tube or from the one at the fimbriated end.

There are some rather definite symptoms of ectopic pregnancy that I have found to exist in the cases I have seen, which can be brought out by a careful case history of the preceding weeks of the patient.

1. A definite history of pelvic disturbance which can nearly always be diagnosed as tubal trouble of some kind, and which often dates back a good many months from the present occurrence.

2. An irregularity of menstruation, continuing for some months before the present disturbance, and with the onset of the present trouble a discharge of dark colored blood occurring each day, with no clot and no regular menstrual flow.

3. Changes in the breasts indicating a pregnancy, and occasionally the vomiting of pregnancy which, however, is not at all a constant symptom.

4. The occurrence of a sudden sharp pain in the lower abdomen, which is followed by the symptoms of shock from hemorrhage, the degree of shock depending on the amount and suddenness of the hemorrhage.

It is the occurrence of this sudden pain, and the physical condition following it, that more often brings the family doctor into the case and often his immediate diagnosis and action determine the future of the patient.

If the hemorrhage is not too great the patient may go on to recovery though it will surely take months before the debris and clots will be absorbed, and then adhesions, obstructions and many other ills may come from the inevitable inflammatory action in the effort of nature to do away with the foreign body.

The physical examination will vary according to the length of development of the pregnancy and whether or not a hemorrhage has already occurred.

There will be an enlargement on the side of the pregnancy the same as may come with a pyosalpinx on one side.

The uterus is slightly enlarged and heavy. If a rupture has occurred the cul-de-sac may be filled with clotted blood presenting a soft boggy mass. Usually an acute tenderness on pressure over the affected side.

The diagnosis may be made prior to the rupture, at the time of rupture, or later during the development of the fetus. It is my experience that only a very few are seen before rupture occurs so that the diagnosis is principally of a ruptured case, which gives the history above outlined with the addition of a sudden sharp pain in the lower abdomen that the patient themselves can locate as being on one side or the other, which is followed by faintness, or actual fainting, and if a severe hemorrhage, by profound shock with evidence of an internal hemorrhage. If the condition improves, bleeding may occur again when the blood-pressure raises or when for some reason the blood clot becomes loosened.

A ruptured pregnancy of the right tube may be mistaken for a ruptured appendix. I have seen this diagnosis made a number of times. Also I have had two cases of ruptured ovary with severe hemorrhage and it is almost impossible to differentiate between these conditions.

A patient with salpingitis may give nearly the same history, including the pain low down and blood discharge from the uterus. One case I have had recently, where all these symptoms were present, even to bleeding into the tubal cavity which was repeated several times. The single exceptions I would say were that there were no changes in the breasts and the mass in the cul-de-sac was harder than that caused by a hemorrhagic mass.

In the treatment of this condition, it must be

recognized as a highly dangerous one, and certainly one in which we cannot feel that there is much safety in delay though Warbasse tells us that nearly 95 per cent recover if let alone. I have to say that the cases I have seen are nearly all in the extra 5 per cent, as the ones which have gone for sometime, still come to operation for infection of the clots. Unfortunately, where we have to see these cases in private practice, and many of them outside of the hospital, rather a different line must be followed than if they were all under ideal conditions. It has fallen to my lot to have twelve of these cases come up in my practice, all of them being referred except one, and although the number is not large, it is enough to warn one that this is not a rare condition, that we do not need to watch for, but that if we are not on the alert at all times to make an instant diagnosis, we may easily lose one of them before we make up our minds what condition we have before us.

Also one comes to some rather definite conclusions as to the treatment of them, after seeing some of these sudden, great hemorrhages with the collapse of the patient, and death staring them in the face.

One of my cases I operated on within a hour of the rupture, and on opening the peritoneum the blood gushed out as from a large artery, it was under so much tension that only a short time of waiting on this case would have meant certain death, and no opportune time would have come for this case, except at once.

Then a case representing the other extreme had gone for ten days with a fresh hemorrhage occurring as soon as the blood clot was loosened by pressure or movement, and the patient growing weaker and weaker each day until she was not only pulseless but seemed to be entirely bloodless so that it seemed if anything was ever done for the woman it must be there and at once, so a frame was built to be used on a dining room table to give extreme Trendelenberg position, the abdomen was opened, the hemorrhage stopped and clots removed in a few minutes. The patient was left on this frame which was put on the bed for several hours continuing hypodermoclysis that had been started as soon as the hemorrhage ceased and aided by water by drop method by rectum. She was left in this position for about twelve hours in all and finally rallied nicely. However, it would have been much easier and safer to operate on the day of rupture if a diagnosis had been made at that time.

Two cases had gone until infection had occurred in the blood clots and violent peritonitis

had ensued. The infection was probably of old tubal origin to which the systems had become vaccinated, or they would probably not have lived long enough to come to operation.

One case was the rare kind of ovarian pregnancy with an early rupture and not so violent a hemorrhage as occurs from the central tubal origin. The other seven cases were all of tubal origin and all operated upon early, the most of them within a few hours of the accident and the post-operative history in each was as uninteresting as that of an ordinary clean appendectomy. I have always felt considerable pride in the fact that all twelve of these cases made a satisfactory recovery. If one could have these cases in the hospital where they would be under constant observation it might be safe to let them go to an apparently more convenient time, but unfortunately work referred from the small town and country side is sometimes far from hospitals and it would be murder in some of these cases to attempt moving them on a local train, in a baggage car traveling over a rough road, and each jolt helping to loosen a clot if one forms, so many of these cases may have to be taken care of where they are found, for if the first hemorrhage should stop and the patient is six or seven hours away from the surgeon it is not safe to leave them, also not safe in many cases to move them.

Unfortunately referred work from the country is emergency work and must be done on the ground, so to speak, and ideal conditions depicted in literature cannot be realized, but the general practitioner and the local surgeon have to consider not how a patient could be handled under ideal conditions, but how best to save the life of the patient in an extreme emergency.

The technique of operation I have followed in these cases is nearly the same in all cases, a quick opening of the abdomen, usually the medium line, or possibly through the rectus muscle of the affected side if this is preferred. The immediate clamping off of the bleeding tube followed by its removal and closing over the raw surfaces. If the ovary is undamaged it should be left. If the patient's conditions permits, the opposite tube should be examined, and if diseased, it should also be removed, but if no evidence of disease is found I see no reason for removing all hope of a future normal pregnancy, because there has been an unfortunate accident on the other side, also if time permits, I do not believe in leaving a large clot in the cul-de-sac as a possible focus of infection. It is also a good plan to fill the abdomen with normal salt solution before closing.



The post-operative treatment is no different from any other abdominal cases except where there has been an extreme hemorrhage with shock they require more supportive treatment for the first few days, and later, a full and especially nourishing and blood building diet until normal health has been regained.

Last Friday forenoon I was called twenty-five miles into the country, to see what proved to be another ruptured extra uterine pregnancy, so I add a short history of her case to this paper as it adds one more to the series.

Mrs. J. E. W. aged thirty-six, had for some months had pain and trouble in the pelvis with a great deal of hemorrhage at times. She had a diagnosis of fibroid uterus. Last month she missed her menstrual period altogether but for over two weeks now has been flowing constantly, the flow being dark colored and sometimes quite free.

This morning (Friday) at about nine o'clock she was as well as usual and was out in the pasture with some of her children, and while sitting down to rest had a sudden sharp pain low down on the right side and fainted in about ten minutes, and has been in complete collapse every since.

She was carried into the house and her physician, Dr. I. F. Thompson, called at once. He arrived about 11:30 and diagnosed the condition as internal hemorrhage from a ruptured extra uterine pregnancy. He called me and as soon as instruments and packs could be obtained from the hospital the trip was started. The patient was pulseless at the wrist and had every evidence of collapse and although the rupture had occurred some hours before there was no sign of reaction, she seemed to be getting worse, so the dining room was cleared out hurriedly, a trestle made to raise one end of the table to give Trendelenburg position, and the abdomen opened at 2:30 p. m. Found it full of blood with some old clots showing that there had been leakage through the end of the tube before the rupture. The pregnancy was near the uterine end of the tube, which accounted for the extreme hemorrhage and profound shock so quickly following the rupture. I removed the ruptured tube and the ovary and cleaned out the large clots in the cul-de-sac, the entire operation consuming only thirteen minutes. It was also found that the diagnosis of fibroma was correct. At the last report the patient was doing very nicely and apparently is to make a good recovery.

#### CONCLUSIONS

1. Be suspicious of every case which gives a history of irregular apparent menstrual flow, followed by several weeks more or less constant, dark in color.

2. When the sudden sharp pain in the lower abdomen occurs followed by shock and hemorrhage, don't delay but get the best help available

to share the responsibility of deciding the immediate future of the case.

3. It is my belief that the life as well as the future of these cases can be best conserved by early operation.

#### Discussion

Dr. H. W. Barbour, Mason City—Ectopic gestation is a condition that carries with it many difficulties in diagnosis. It is a condition we should all be on the lookout for. The indications are to go in when the diagnosis can be made, and as soon as the bleeding vessels are tied we should get out. I agree with the essayist on the after-treatment. If the patient is in shock from hemorrhage, a blood transfusion is indicated.

Dr. E. C. Junger, Soldier—I want to come to the defence of the general practitioner and see if you do not agree with me that we are sometimes up against it. I practice among people that are mainly Norwegians, they are quite clannish and do not often leave home, therefore they do not get any of these new-fangled ideas. Whenever we are called upon to do something that is new or different or out of the ordinary, we have to be ready to take a lot of blame if things go wrong. I do not know why, in the nineteen years that I have been in practice, I should have had a case of ruptured tubal pregnancy the first year and then not any in the next eighteen years. This happened, as these things sometimes will, on a Sunday morning, when we have no trains, and at that time we had no telephone, no automobile, nobody we could get hold of. Procuring a livery team, I reached the patient in due time. The pain was on the right side, and the first physician called had the previous evening (Saturday) diagnosed the condition appendicitis. On Sunday morning at 5 a. m. I found the patient in shock. She was a big, stout, well developed Norwegian woman who never had paid attention to any little pain. Whenever you are called to treat a Norwegian, make up your mind that the patient is sick. I must say that I made a brilliant diagnosis, for once at least, based on the condition of extreme shock. This woman had eight children, step-ladder fashion, the baby only a year old. I said to the Doctor, "This looks like a ruptured tubal pregnancy." We had a little history, but it is difficult to get a history from some of these people, they do not pay any attention to when they menstruated last. It took several hours to secure consent of the family to operation. Then when I had gained consent I needed a man to give the anesthetic, I wanted a nurse, and had to go home after the instruments. Nevertheless we got in there before noon, the patient's abdomen about as large as a pregnancy at term from accumulation of blood. Instead of finding the lesion on the right side, it was the left tube that was ruptured. I got enough blood out of the road to get to the tube, tied it off and got out, leaving in considerable blood clot, which, absorbing, answered instead of feeding the woman a lot of hoemobeloids at \$1 per bottle. I also used

normal salt solution by bowel and hypodermoclysis. The patient made a good recovery and has since had two fine babies. The woman ought to have a Roosevelt medal, and I ought to be cited for special bravery under unusual circumstances.

**Dr. B. D. Atchley, Shelby**—My people in Shelby are losing what little faith in me they ever had. I was there seven years before having a case of tubal pregnancy. Then I had one, and, as Dr. Junger just stated, it took about five hours to get consent to an operation. The patient made an uneventful recovery and is now pregnant again. But the loss of faith came a short time ago when my third case of tubal pregnancy was operated on, then in four months we had to operate on the other side for a similar condition. Since that I have had another case of tubal pregnancy, therefore all these cases, coming within such a short time as they did, makes me sit up and take notice. I now dread to see a female patient with a little hemorrhage and pain in the side because of fear of tubal pregnancy. But it may be of interest to the men here to know that we fellows in the country sometimes get these cases in groups, and that they are rather trying.

**Dr. Armentrout**—The case cited by Dr. Junger emphasizes the point I intended to bring out: That these things have to be taken care of at the time and under the best conditions one can get, because with many of us much of our practice is a considerable distance from the hospital, and therefore we have to use what we have at hand. We cannot have things the way we would like to have them, and my idea in presenting the paper was simply to bring to our minds that this is not at all a rare condition as it was supposed to be when I was in school. Sooner or later every one of us is going to see some of these cases, and if we do not keep an open mind on this condition, sometime one of these patients will slip away from us.

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#### OBSERVATIONS BY A WOMAN PHYSICIAN IN STATE HOSPITAL FOR INSANE

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PAULINE LEADER, M.D., Clarinda

It has been observed and is a fact, that the majority of the laity, and even some doctors and nurses, do not think of, or look upon the mentally afflicted as one that is sick, and needs to be cared for, and treated like a really sick person—just one with an addled brain, or “daffy,” as they term it. They will tell you there is nothing the matter with the person, only he has an ungovernable temper—is acting queer, or mysterious, and has some silly ideas in his head that he keeps repeating.

This is a great mistake, for there is no sickness compares with some forms of mental sickness—

no suffering or pain so great as mental pain. Take for instance, the person suffering from that form of mental trouble classified as pure melancholia. The very countenance and expression of the face bespeaks their agony and mental suffering; and when one sees them, one cannot help but to some extent suffer with them. With this form of mental trouble or sickness, there is a gradual development of a state of apprehensive depression, associated with more or less fully developed delusions. The most common of these are ideas of sin, such as ideas of having fallen away from God, of being forsaken, having committed the unpardonable sin, of being possessed of the devil; hypochondriacal ideas, of never being well again, never can eat another meal, of having no stomach, no brain, etc. There is often apprehension of poverty, of having to starve, of being thrown into prison, and of execution.

As a consequence of this mental unrest, and these tormenting ideas that prey on them day and night, there almost invariably develops the wish to have done with this life, and patients very often become suicidal; and the one class of mental patients that need to be most closely guarded, to prevent suicide, is the pure melancholia.

Can anyone who is possessed of normal mind, conceive of anything more painful, more distressing, than something preying on their mind day and night—something that cannot be forgotten or gotten rid of?

For the majority of severe physical pains, there is some medicinal preparation that may be administered, that acts as a panacea for the same, but not so with mental pain. There is no one thing in the medicinal curriculum, that will obliterate the pain of the mind.

It has been observed that the doctors and nurses that devote their time to the mentally sick, are sort of held aloof by some from other workers in the medical field—are thought of as not amounting to much, or standing very high in the scale of the medical profession—are just “crazy” doctors, and “crazy” nurses.

Let one who has plowed in both fields, state that it takes more tact, more skill, more patience, more sympathy, and more of the attributes of the Great Physician, to successfully treat and care for a mentally sick patient, than it does to treat a case of small-pox, an ingrown toe nail, or a broken bone. It is the difference between treating a patient with an arranged mind, and one with a disarranged mind. It is the difference between treating the coarser parts of the body, as it were, and the choicest, most wonderful, most



precious possession that mankind has—the mind itself.

The mental doctors must have a broader knowledge than just that which pertains to mental diseases alone—for the mentally sick are not immune from other diseases of the body. They must have a working knowledge of the different diseases, and know something of internal medicine; for sometimes a patient is brought into the hospital, suffering from typhoid, or some disease mistaken for mental trouble. Sometimes there is an epidemic in the hospital, of typhoid, or flu, some small-pox, and other contagious and infectious diseases.

They must know something of surgery, as there are always cases of plastic and minor surgery, and occasionally a case of major surgery. They must, like the osteopath, know something of anatomy, as there are sometimes dislocations to reduce, and broken bones to set.

The disease in the individual must be treated, and not solely the mental symptoms. Syphilis of the brain must be treated with the same remedies as syphilis in any other part of the body. Typhoid fever of the insane must be treated like typhoid fever of the sane, and so on.

The mental cases suffering from these various physical diseases, cannot be sent to a general hospital, but must be treated in their own hospital; hence, the psychiatrist must be able to diagnose and treat these diseases. The general practitioner of medicine is frequently called upon to treat cases of mental diseases; he may be confronted by a confusing array of symptoms of a psychical nature, with which he may or may not feel able to cope—but he has the advantage of sending his case, as soon as he recognizes some mental disturbance, to the hospital for the mentally afflicted, and he does not have to be able to diagnose the case, as to whether it is a case of dementia praecox of the hebephrenic form, katatonic, or manic depressive, or what it may be.

It is true that the average medical graduate of today has a far better knowledge of mental diseases and their classification, than the graduate of yesterday. This is due largely to the fact, that in some medical colleges, especially the state colleges, there is, in connection with it, like in our good State University of Iowa, a psychopathic department, where patients with some mental and nervous trouble can go, of their own free will, and without being committed, and be examined and treated for a time—thus giving the students an opportunity to observe and study mental and nervous diseases. It would not be amiss to say,

that Iowa may congratulate herself for thus being able to secure the services, and bring to the West, the very efficient psychiatrist she has at the head of her new department.

As a whole, no class of cases probably make better response to proper medical attention given at the proper time, than those belonging to the so-called "insane." The cases must come early, while the symptoms are in the acute stage, and not be allowed to drift into incurability, while waiting at home for a change for the better to take place. This does not mean, or have reference to the case with decayed or defective brain, in which there is nothing to treat but cases with derangement of the mental faculties.

It is observed that those who work with the mental cases become unconsciously sort of character readers, as it were, due to the habit of closely observing the mentally deranged. They must do this to know something of their physical ailments, for many will not make manifest their ailments or sufferings, if they could.

Those with religious delusions think they are serving by suffering. One has to deal with the objective symptoms, rather than the subjective. Sometimes there are deranged cases that are restored mentally by severe pain, suffering and illness. On the ward walks, one becomes accustomed to observing closely for some symptoms of improvement. There may be a more kindly expression, or a twinkle of the eye, or a skeleton of a smile that had not been in existence previous to this. A more erect posture, or a quickened step. These minor things do not seem much in the abstract, but in the aggregate, they are like the "Little drops of water, and the little grains of sand," that you remember "make the mighty ocean, and the pleasant land." So these little marks and symptoms in the aggregate, often bespeak recovery.

It is to be noted, that of the number of women that are committed to the Iowa state hospitals for nervous and mental treatment, there are very few women, as compared with the number of men, that are suffering from venereal disease, or paresis. This, at least, is true of the Clarinda State Hospital, and it gleams from some of the largest cities and towns of the state. As a rule, we do not receive these cases until the usual somatic and psychic signs are very marked, and the disease, especially that of paresis, well on its way, or fully established. There is a slow, continued physical and mental decadence. The clinical course of most every case of paresis, has periods when the coherent, intellectual, normal mind again assumes its duty for a longer or shorter period of

time. The dread symptoms, however, as is well known, never fail to appear.

If careful observation is kept, these patients show many clinical fluctuations. Some one has said, that "the course of paresis is not steady, but wave-like, each rise and fall carrying the sufferer one more step nearer the end."

There has evidently been a grave mistake in the teaching of the anatomy of women. Some anatomist has blundered, or the student has studied anatomy with the skeleton standing on its head; for instead of locating the brain of the woman, like that of man, away up in the highest pinnacle of the human structure, it has been slipped down, so to speak, to about the lowest part of the woman's anatomy, called the pelvis.

When a nervous woman that is subject to mental disturbances, comes to one of these misinformed doctors for treatment, he at once looks for the trouble in the pelvic department. If it is found that there is some pelvic trouble, even though slight, it is concluded at once that this is the seat of the trouble; and if it be one or more of the generative organs in question, it must be sacrificed, and forthwith an operation is recommended, thus many times depriving the woman of the sacred rights she has, of being called a woman. Tinkering with the pelvic organs often intensifies and aggravates the nerve trouble, causing a longer period for recovery, when a much shorter period was needed; and sometimes causing a hopeless mental derangement.

It is true that any part of the body that is out of plumb or diseased, may tend to add to the nervous trouble, but the dismembering does not, as a rule, always restore the sick nerves to their normal. Many mental and nervous cases come to the hospital with a history of having had a pelvic operation, which was unsuccessful, leaving the patient more nervous and more hysterical than before the operation. Therefore, all surgical measures in mental and nervous cases, in regard to the female generative organs, should be undertaken with great caution and conservation.

It has been stated that heredity plays a great part in the human race. If anyone doubts this, let him study the records of the state institutions, and he will find that childhood and youth help increase the population of the various places. In the state hospitals for the nervous and insane, one will find a number under the age of twenty years. Do you wonder why they are here? Some will say Mother Nature has been remiss, has been unkind—others, that home surroundings and influences are to blame. The real reason is heredity. Nearby, or far down along the chain of

ancestry there has been a flaw, a weakened link. This may be due to alcoholism, to epilepsy, or various other things.

We have been told that "the sins of the fathers are visited on the sons unto the third and fourth generation," so it may be that a great uncle, or a great-great-grandfather may have been an alcoholic; a great-aunt, an epileptic, and so on. The results, though far-fetched, has been for them a weakened nervous constitution. This has been their legacy at birth. Some suffering from an unstable, weakened nervous system, can be helped, some made well for a time, but cannot be kept well, unless they could be separated from their inheritance.

Robert Rentou, in one of his late works, terms that a child's Magna Charta is the birthright to be born physically healthy and bright; the birthright to be happy, to be useful citizens, and healthy parents. These born with weakened nervous systems have not received this Magna Charta. Since the study of eugenics is well under headway, and there has been legislation on the manufacture and use of alcoholic liquors, and the sale and use of narcotics, has been limited and the cases of venereal diseases must be reported to the state board of health, and with other reformatory measures, it is to be hoped that those born in the next few centuries will be marked by less hereditary trouble, by strong nervous constitutions, and that the life stream will be kept free from boulders and breakers.

The Good Book says, "The poor you have with you always." Well might it have added, that in the state institutions, the aged you have always with you; for the hospitals for the mental and nervous are virtually becoming the home of the aged.

In the Clarinda State Hospital, with a population of 1200, there is about 500, or 24 per cent of the population, ranging in age from sixty to ninety years; forty have been admitted in the last year. The reason why there are so many more aged in the hospital than formerly, is not entirely due to the fact that senile dementia is increasing, but because people are taking more advantage of the hospitals.

A visit to the hospital will reveal to you many white-haired and hoary heads, many bent forms and wrinkled faces. This picture needs no explanation. Time has been the master hand. A close examination finds the skin dry, yellow, and wrinkled; the muscles shrunken, the eyes dulled of lustre, sight is impaired, the voice has lost its crispness; there is a high degree of hardening or calcareous degeneration of the arterial system.



This marks the retrogression of the organs of the body, in which the brain has an equal share. It becomes shrunken, atrophy of the cells of convolution, and the gross lesion, softening, are often present.

No class of patients brings out one's sympathy as much, or more, than the class before you. They are often individuals who have worked hard, early and late the greater part of their lives, so that when they reached a certain age, they might have their coffers sufficiently filled, that they might spend the remainder of their days in peace, quiet and comfort, and if parents, that their children might enjoy some of the luxuries that the world affords. But when they reached this period of life, they were not mentally able to enjoy their hardearned comforts, and some not permitted to remain in the home. They have burned their candle at both ends—they have burned it late into the night, so to speak. They have worn both mentally and physically while they wrought, and nature has not kept apace, has not kept up repairs. Sooner than aware, age has crept upon them. A glance at their stooped shoulders, their silvered hair, and their wrinkled faces, tells you that senility is before you. Were you to try to converse with them, you would be aware that dementia is also present.

The word "senility" brings a mental picture of one who is fast approaching the three-score-and-ten milestone of life, whose physical strength has begun to wane. With senile dementia, or mental death, the picture changes somewhat, and you have before you, one who in addition to physical enfeeblement, has the pathological condition of the brain, either in the cells or other component tissues, that marks mental weakness and decay, from which there is no restoration, no hope, for improvement, no help no relief but that of death. Nothing can be done for them other than care for their immediate wants, to nurse them, to help smooth their pillow, and to ease them on their downward path. This should be done in the home by loving hearts and kindly hands, instead of being done away from home, and by strangers.

It is right and proper for those who cannot, and are not financially able to give their aged ones proper care in the home, to take advantage of hospital care; but it does seem heartless, since no help can be given, for those who are amply

able to have their enfeebled aged ones properly cared for in the home, to put them in hospitals, where nothing familiar greets their faded eyes. Those who are influential in such matters, before sending the very old, feeble, and demented from their homes, should weigh the matter well, as to whether or not it will be the best for the patient; for it usually shortens their days, and increases the mortality of the institutions.

Those that are most agitated, either wear out in a short time, or pass into a more deepened demented state, due to the progress of retrogression. Oftentimes the restlessness, resistiveness and desire to wander is simply the beginning of the end.

So bear with the aged insane for a while longer,—in the home if possible, and do not hurry them away to the already too crowded institutions, where they take up the time of the nurses, that should be given to those patients that promise a recovery, or improvement. I do not say this with any malice toward the aged—for I love them, and think, of all people, they no doubt are the most deserving.

Therefore, I make the simple plea that the senile demented in mind and feeble in body, be permitted, if possible, to spend their few remaining days in their homes. Since the number sent to the hospital is gradually increasing, the state no doubt will be prevailed upon some time in the future, to provide an institution for those afflicted with senile dementia.

The path of the psychiatrist is not always strewn with thorns and sharp pebbles. There are many flowers along the way. One can understand what a great pleasure it is to watch a mind that for months has been disorganized, deranged, and benighted, as it were, gradually becoming arranged, so that darkness will be turned into light, delirium into clear thinking, so that things will be seen and understood as they are, not as they seem. The clouds are dispersed, the sun once more shines brightly, and life once more takes on a rosy hue.

If in this rambling, one thought has been expressed that will cause you to have more sympathy for those mentally afflicted, and be the means of your giving one kindly thought to the psychiatrist and his work, the paper has served its purpose.

## NASAL HEADACHES\*

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In presenting this paper, it is our intention to omit discussion of suppurative sinus conditions. We wish to dwell especially on the cases that present themselves with a chain of symptoms, particularly headache, in which no sign of suppuration is present; that is, those cases that cannot be diagnosed as sinusitis, *per se*.

Most of these cases, though, will have a history of acute suppuration at some previous time. This history of suppurative nasal condition is not always elicited, however, as it is generally coincident with a coryza and usually subsides with the coryza.

We wish to emphasize, however, that were it not for certain anatomical conditions present within the nose at the time of the coryza and suppuration, that with the subsidence of these symptoms the affected tissues would in most cases return to normal.

In addition to the anatomical deviation from normal there are certain exciting conditions, or factors, that tend to incite, exaggerate, and prolong the coryza and nasal infection. These are constitutional diseases with lowered vitality, nephritis, and arteriosclerosis with increased blood-pressure. Tobacco, alcohol, gases, and improper ventilation are also exciting factors. Our modern heating systems which extract so much of the moisture from the air accounts for much of the lowered vitality of the nasal mucous membranes, and plays an important part as an exciting factor in coryzas, and subsequent acute exacerbations.

The bacteriological factor of course is present, but it is difficult to say just how much it is responsible for these cases in which suppuration does not exist, even though it may have been the exciting cause. Following a suppuration coincident with coryza, there may be a destruction of glands of the mucosa, and a beginning hyperplasia and chronic inflammation of the mucous membranes.

The lining mucous membrane of the sinus is composed of ciliated epithelium with a motion wave toward the sinus ostium. The inflammation and hyperplasia interferes with this, not only for the emptying of pus, but also for its normal secretion. The hyperplasia of bone is but a step further in the process.

Headaches of nasal origin are much more frequent than generally supposed. Statistics taken from our records show that about 35 per cent of the headaches that have come under our observation had a nasal factor that could be demonstrated. These cases present themselves to the general practitioner as migraine, neuralgia, inherited headaches, "stomach" headaches, neuritis of the head and upper extremities, and in a great many instances are attributed to eye trouble.

Accompanying these symptoms are many nervous and intellectual disturbances. The patient often complains of lapses of memory, mental torpor, impaired ability to concentrate on business affairs, and a marked aversion to mental work. The patient is very apt to be labeled a neurasthenic, and in fact often becomes one. He goes from one oculist to another to have his glasses changed, hoping each time that relief may be obtained. In many instances the patient seeks and often finds relief in the different headache remedies, which is a dangerous practice.

We wish to lay special emphasis on the fact that the headache or pain may bear no relation in location to the site of the lesion.

We have found in going over our cases and consulting the literature that these cases of nasal headaches of non-suppurative sinusitis fall naturally into four groups: (1) vacuum sinusitis, (2) headaches due to nasal pressure with end nerve irritation due to contact, or retained secretions that are non-suppurative, (3) nasal ganglion neuroses and (4) hyperplastic sphenoiditis.

The vacuum frontal headache is one of the most difficult to diagnose and differentiate. The symptoms are those of asthenopia. The patient has a low grade, constant headache, which is made worse by use of the eyes. There is no pus in the nose, no severe pain, and frequently no nasal symptoms at all. In fact all the patient's symptoms are ocular. This condition is due to the fact that after closure of the sinus, the air is partly absorbed, and the resulting negative pressure makes the sinus walls very sensitive. The floor of the sinus is its thinnest wall, and to it is attached the pulley of the superior oblique. Any use of the eyes pulls on the sensitive sinus floor, and causes a dull headache with disinclination to use of the eyes.

Inherited headaches, so-called, are frequently of the vacuum frontal type. However, what the patient has inherited is not a headache, but a narrow nose which has become complicated by a hyperplastic change in either the soft parts or the bone. Dr. Ewing was the first to recognize the

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vacuum frontal headache and to describe the symptoms which are, briefly; inability to use the eyes for close work because of the headache which is produced, and which is not relieved by glasses or eye treatment. It is accompanied by a tender point in the upper, inner angle of the orbit. (Ewing's sign.) This sign is almost constant.

The frequency with which these headaches occur in the morning is explained in the following manner. During the night the mucosa of structures composing the drainage passages become hyperemic and swollen to such an extent that the air changes in it are entirely suspended. As a consequence the blood absorbs the oxygen contained therein, the volume of carbon dioxide given off being in disproportion. This results in a negative pressure in the sinus, causing pain until the sinus is again aerated. Air changes in the sinus during respiration should be in direct ratio to that in the nares.

The anatomical changes tending to produce a vacuum frontal sinusitis will be found to group themselves under three distinct classes. They are: (1) enlargement of the tubercle of the septum, with a narrow passage, (2) noses that appear normal until the removal of the middle turbinate demonstrates that the hiatus semilunaris is closed by apposition of the uncinate process and the bulla, (3) edema and hypertrophy of the middle turbinate and the vault of the middle meatus following a coryza. The mechanism by which closure is produced is a combination of unfavorable anatomical conditions such as a narrow nose presents, plus hyperplastic changes in the soft parts and bone.

Nasal symptoms are frequently absent and unless there is some obstruction to breathing, the patient attributes his symptoms to eye strain in a large number of cases.

On inspection, the tubercle of the septum will usually be found in contact with or close apposition to the middle turbinate. Spurs near the floor of the septum or enlargement of the inferior turbinate may obstruct breathing, and prevent proper aeration of the sinuses, but are otherwise a negligible factor.

The nose should be carefully shrunk with cocaine and adrenalin and followed by suction to see if pus secretion exists. This very frequently relieves the headache, provided the middle turbinate is not too large or firm or has not undergone a bony hyperplasia. Alkaline sprays and astringents relieve such patients until another attack of coryza. Plenty of fresh air, physical exercise and attention to diet tends to lower congestion.

In most cases, however, re-occurring attacks with increased severity makes it expedient to resort to surgery.

In the majority of cases, removal of the anterior one-half of the middle turbinate suffices. Drainage is established and aeration facilitated. We do a previous sub-mucous resection usually at the same time, which not only gives more space in the nose, but enables the operator to thoroughly perform his turbinectomy on the side of the convexity. It cannot be satisfactorily done in a large number of cases without this previous sub-mucous resection. Failure to relieve many of these cases can in our mind be traced back to this point.

Some of these patients obtain relief, however, in later life, due to the atrophy of mucous membrane that naturally occurs. The sinus ostia, which have been obstructed, and mucous membrane which has been in apposition are freed by the atrophy, provided the hyperplasia is chiefly of the soft parts.

This accounts for histories of headaches we often obtain that would undoubtedly come under this heading i. e., either the vacuum or pressure type. These patients tell you, "I had a catarrh when I was younger, but it is much better now."

An associated error of refraction not sufficient in itself to cause marked headache, or other symptoms, may when associated with some nasal irritation, cause considerable of either.

To differentiate, refraction under cyclopegia should be performed. If the accommodation is active it should be used in older people. Astigmatism against the rule, and the phorias especially hyperphoria and exophoria are frequently associated with these frontal and anterior ethmoid involvements. Frequently they show improvement when the nasal condition is relieved.

Adhesions of the middle turbinate to the convexity of the septum may and frequently do cause end nerve irritation. This may be jointly to blame with the vacuum condition. This combination alone is very frequently the cause of headaches. In our experience it is the one most frequently met with. It may cause a vacuum condition in the ethmoids or a retention of the secretion, causing a pressure headache.

When this condition is met with, it should be thoroughly cleared up at the time of the operation. If sufficient space cannot be obtained between the posterior septum and the posterior part of the middle turbinate by removing the posterior part of the septum with our preliminary sub-mucous resection, we should remove the remainder of the middle turbinate. It is at this

point of the operation that our thorough submucous resection will be most advantageous in determining and dealing with adhesions.

An operation otherwise perfect, may fail to relieve the patient if adhesions and apposition of the posterior part of the middle turbinate and the septum exist.

Headaches due to nasal pressure are subdivided into two classes: (1) those causing end nerve irritation, and (2) retained secretions that are non-suppurative.

We feel that one of the most frequent causes of headaches of nasal origin is to be found in cases in which there are adhesions between the septum and middle turbinate, or pressure of the middle turbinate on the septum. These patients complain of pain which varies from a dull unending ache to an intense neuralgic pain. These symptoms are supplemented with a condition of marked neurasthenia in most cases. The patient is unable to concentrate on his work for any length of time, he is alternately excited or morose and there is a marked disinclination to any form of work requiring mental effort. This type of case is extremely amenable to operative treatment. A submucous resection with removal of the offending turbinate or in many instances, a turbinectomy will give complete relief.

There is another type of headache, in which a large middle turbinate will be found impinging on the septum, but without sufficient force to cause end nerve irritation. It is sufficient, however, to block the natural drainage of the maxillary ostium, and the frontal ethmoid region. Shrinkage of the nose with subsequent suction will demonstrate a large amount of clear mucous, non-suppurative in character. Insufficient drainage has allowed this secretion to accumulate, causing a low grade headache. In most cases, removal of the middle turbinate will suffice to correct this condition, although a submucous resection is also indicated in a certain number of cases.

*Nasal Ganglion Neuroses*—Sluder ably describes this condition and dwells in detail on many symptoms due to lesions affecting the nasal ganglion. He says this ganglion is frequently located very superficially in the lateral wall of the nose. By actual measurements, Meckel's ganglion frequently lies as close as 2 mm. to the nasal mucous membrane, or may be as deep as 7 mm. This accounts for the relief of various symptoms accomplished by removal of the entire or posterior part of the middle turbinate. This also shows why adhesions between the turbinate and septum, or pressure of the septum on the

turbinate will cause many obscure neuralgias, headaches, and reflex symptoms.

Sluder cites many instances in which cures have been effected of all sorts of obscure nerve irritations of the ganglion. Relief may be afforded to many of these conditions by use of astringents applied to the region of the sphenopalatine foramen.

Cocainization of the nasal ganglion has produced some unusual phenomena, some of which are hard to explain. Ewing discovered that the pain of glaucoma could be stopped by anesthetizing the nasal ganglion, and Miller and Luedde proved that injection of the ganglion lowered the intra ocular tension of glaucoma, but that the effect was transitory.

Sluder cites numerous cases in which the pain of photophobia, glaucoma, iritis, corneal ulcers, and phlyctenular keratitis may be stopped by cocainizing the nasal ganglion. Also, in many of these cases the course of the disease was greatly shortened, and immediate improvement noted. This is undoubtedly due to the effect of the cocainization on the sympathetic nervous system, causing a nerve blocking of the sympathetic fibres from the nasal ganglion.

It is rather difficult, as a rule, to make a positive differential diagnosis between lesions of the nasal ganglion, and those of sphenoidal origin. It is fairly safe to say, however, that (1) cocainization of the nasal ganglion stops the pain of a lesion in the ganglion proper, but (2) does not stop the pain created by the more central lesion of the nerve trunks secondary to sphenoidal inflammation. However, (3) intra-sphenoidal application of cocaine will stop the pain of sphenoidal lesions.

Treatment of these cases is not always satisfactory, and considerable patience must be exercised in dealing with them. Applications of astringents to the region of the sphenopalatine foramen, or injection of the ganglion itself, give as a rule fair results.

*Hyperplastic Sphenoiditis*—We are of the opinion that non-suppurative involvement of the sphenoid and post-ethmoid regions following coryza and infections is very frequent, but rather difficult to diagnose. Many of these cases are perhaps the result of old posterior nasal infections, dating in many instances from infected adenoids and tonsils of childhood.

Dean and others have demonstrated the frequency of sphenoid sinusitis of childhood. Dean attributes it chiefly to infected adenoids, stating that 80 per cent of these cases are cured by removal of tonsils and adenoids alone. These facts



are especially valuable to consider as a factor in explaining the hyperplasia of mucosa and bone in the sphenoid and posterior ethmoid region.

While the cases we speak of may, or may not, present pus at the time of examination, still there is usually a history of pus in the nose. Severe attacks of coryza, or infected adenoids, may be the only history obtained. The hyperplasia resulting from the inflammation may involve both the soft part and the bone. The mucous membrane becomes thickened and in many instances sclerotic.

Such a condition can easily therefore cause marked symptoms, in as much as the sphenoid sinus is in such intimate relation with so many nerve trunks. This is especially true if the sinus is large, because the nerve canals and foramina are then only separated from the sinus by a comparatively thin wall of bone. The hyperplasia can therefore exert pressure on the nerve trunk in its canal or even narrow the canals and foramina.

The result would be headaches, neuralgias and other symptoms along the distribution of the particular nerve involved. This condition is the underlying cause of many of the re-occurring headaches in people who are otherwise healthy.

These headaches also have been characterized as migraine, inherited or idiopathic headaches. The headaches felt in the lower half of the head, or as patients often say, "they feel as if they have a chunk of lead in the center of their head, or at the bases of the brain," are sphenoid in origin. This condition is exaggerated if combined with retention of secretion, as we believe quite often occurs.

Constitutional diseases, straining at stool, coryza, etc., all exaggerate the symptoms.

The sphenoid sinus is usually easily accessible for inspection and treatment after preliminary removal of the middle turbinate. If the septum is markedly deviated, it should be corrected by a sub-mucous resection. This is especially true if the deviation is well back in the septum.

We believe in these cases the posterior septum should be removed back to the rostrum of the sphenoid. This has been especially efficacious in our experience.

After watching some of these cases secure relief in which there was apparently no suppuration, no pressure of turbinates on the septum, and no occlusion of the sphenoidal ostium, we have come to the conclusion that the bony septum was causing increased intracranial pressure.

We believe hyperplasia of bone occurs very frequently in the posterior septum. Sluder and his colaborer Wright have proved conclusively

that hyperplasia of bone occurs in the sphenoid. Following his line of thought and theorizing further, it seems reasonable that if sufficient hyperplasia of bone occurs in the sphenoid to crowd bony canals and cause symptoms, it would also crowd the posterior septum, causing increased pressure there and vice versa. If the hyperplasia were most marked in the septum we would also have increased pressure on the ethmoid, and an increase of intra-cranial pressure.

We cannot otherwise explain why the removal of this posterior part of the septum gives the relief it sometimes does. We cannot explain why some of the posterior septums are as thick as they are, except as a hyperplasia of bone following inflammation and hyperemia. This condition is especially marked at the junction of the vomer and the perpendicular plate.

We believe that this hyperplasia combined with the increased ossification of advancing age in bones of the skull, can cause increased pressure on the structures adjacent to the sphenoid and ethmoid, with headache as the chief symptom.

On the other hand, some of these patients, later in life, get a cessation of symptoms and an apparent cure. Sluder attributes this to a rarefying osteitis, an involution of the hyperplastic changes.

After the septum is straightened and the middle turbinate removed, the sphenoid can be treated. Astringents may be applied to the ostium, or solutions be injected into it, which is usually sufficient. It can be opened by any of the approved methods with good results.

#### CONCLUSIONS

That nasal conditions without suppuration, causing headaches and other symptoms, are very frequent. Migraine, neuralgias and ocular symptoms that do not respond to eye treatment can be frequently traced to the nose, and relief given.

That adhesions between or apposition of the middle turbinate and septum is the most frequent factor in the causation of symptoms.

That hyperplasia of bone in the posterior septum occurs and may cause symptoms by an increased pressure on adjacent bony structures.

If after reasonable time, permanent relief is not afforded by non-surgical treatment, the surgeon is justified in operating. The operation of choice is the one that will afford the greatest degree of aeration and drainage in the upper and posterior nose, with the least sacrifice of mucous membrane.

#### Case Reports

Case 1. Mr. W. R. F., aged thirty-nine, former minister, gave it up on account of inability to use eyes. Almost constant frontal headache, exagger-

ated by reading or coryza. Pain in back of neck, and shoulders, marked aversion to mental work. Always had some catarrh. Many refractions. Glasses partly relieved headache. Nose examined but never suggested as a cause of headache. Examination: astigmatism against the rule with one-half degree of hyperphoria. Corrected with some relief. Nose shows very thick septum, marked thickening of mucous membrane and bone, especially in middle turbinate region. Both middle turbinates in close apposition to septum. Fairly good breathing space on floor of nose. Neither middle turbinate shrinks well. Diagnosis: vacuum frontal sinusitis and end nerve irritation. Operation showed unusually thick cartilage and bone in upper anterior septum. Did a submucous resection, anterior one-half both middle turbinates removed, with complete relief.

Case 2. Mr. D. W., aged twenty-two, farmer. Constant frontal headache, worse toward evening. Nose never bothered, but catches cold easily. No obstruction to breathing. Had nose injured when a child. Examination: slight occlusion of right nostril, both inferior turbinates large, septum straight, but thickened posteriorly, anterior one-half of both middle turbinates adhered to septum, right markedly so. Diagnosis: End nerve irritation. Removed anterior one-half of both middle turbinates, and crushed and fractured inferior turbinates. Complete relief.

Case 4. Mrs. O., aged sixty-four, housewife. Very anemic, general examination negative, except trace of albumin. Always had more or less headache, but last few weeks had become very severe. Patient in bed most of the time. Had very severe pains in back of head and shoulder, running down arms, but worse in forehead and behind eyes. Use of eyes and light exaggerated condition. Always had some catarrh. No obstruction to breathing. Examination: nose shows no stenosis, septum somewhat thickened. Inferior turbinates normal, middle turbinates in apposition to septum on both sides. Culture from nose showed streptococcus. X-ray showed large sinuses although patient was small woman. Frontals shows suspicion of pus. Operation under local. Did complete ethmoid exenteration on both sides, following turbinectomy.

Found both middle turbinates tightly adhered to septum. Both middle turbinates had large ethmoid cells composing most of the turbinate, containing mucous but no pus. Frontal sinus easily probed but showed no pus. Opened both sphenoids. Found them large, containing mucous, but no pus.

Patient weak, concluded operation, expecting to open frontals at another time. Patient made rapid improvement. Headaches disappeared. Had slight secretion, not of a pus nature, but culture showed streptococci. Irrigated, used suction. Patient made complete recovery with no return of symptoms in eight months. Gained ten pounds in weight, and general health has made marked improvement. We cite this case believing that while a streptococcus infection had been present, that the infection was not

causing the symptoms. We believe that it was caused by hyperplasia of bone and soft parts, existing in the middle turbinates and ethmoid, causing pressure from retained secretion, and end nerve irritation, and irritation of the nasal ganglion.

## HYPER AND HYPO-THYROIDISM\*

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Permit me to present for our consideration tonight two clinical pictures: The one of a woman who is a "hyper;" the other of a man who is a "hypo." The answer being disturbed function of the thyroid gland. No apology is made for either the style or brevity of this manuscript. In the discussion let us confine ourselves to diagnosis and treatment and leave out the etiology and pathology of the diseased thyroid.

### Picture No. 1

Is of an individual rather ordinary in appearance, habits, etc., until the age of thirty or thirty-five and then suddenly takes a spurt ahead and makes a success or at least an attempt at success. Success meaning "the prosperous termination of an enterprise." Such an individual is not uncommon and is most noticeable in the female of the human species. I have in mind a mother of two children who until the age of thirty-four was truly domestic, suddenly developed the desire to "emancipate" herself, with the result that she turned her children out to a boarding school, her house work to servants, her husband to his clubs and took up other than household duties and succeeded in becoming the president of a well known local woman's club, a number one golfer, etc., etc. The question logically follows: where did she get this new enthusiasm, restlessness, "pep," etc., which changed her? The stimulation came from her thyroid gland, for at the age of thirty-four she developed an appreciable increase in the size of the thyroid gland and gradually lost fifteen pounds in weight, had moderate exophthalmos and attacks of tachycardia, she also experienced insomnia. This was a case of moderate hyperthyroidism. She has now gone over a period of six years with seemingly no marked changes other than just described. It is probable that there will be a retrogression of her symptoms at or following her menopause.

### Picture No. 2

Is of an individual who is an up and doing sort, who had been noted for putting big things

\*Presented before the Fortnightly Meeting of the Woodbury County Medical Society, Sioux City, October 12, 1921.



over in a big way up to the age of forty-five and then came to a sudden halt. This abrupt halt was noted by the man himself, but more so by his family. He slept from ten to twelve hours a night, went to his office late, could not make decisions readily, his business became a bore, he gained twenty pounds in weight within one year and a half and he had an abnormal appetite. The proof in this case that there was a disturbed inhibited thyroid function was the clearance of the above symptoms following his taking one-fifth grain of thyroid extract three times daily, for the physical and mental abnormalities disappeared following the medication over a period of three months, and returned to a degree when the thyroid extract was omitted.

Individuals with too much thyroid secretion are quick, nervous, restless, undernourished and poor sleepers. Examples in women are found in public positions. In men we find them in the club rooms in the evenings rather than at home with their families.

Individuals with too little thyroid secretion are slow mentally and physically and without ambition. Both conditions depend directly upon the degree of hyper and hypo-thyroid function. The backward school child, the village fat boy, the fat lady of the circus are common examples of hypo-thyroidism and can often be materially aided by proper organotherapy. It is quite true that often these cases are suffering from poly-glandular disturbances (pituitary, thyroid, sex glands, etc.).

The treatment of the hyper-thyroid is embodied in one sentence; reduce the amount of thyroidin to normal. To do this has been the aim of all therapists. Medically inhibitory remedies chief of which are arsenic, morphine and bromide have in some instances secured desired results, but in most instances have been of no value. Thyroidectin and ovarian extract have also been administered. The x-ray alone or in conjunction with the above remedies has been of some value in a number of instances. The x-ray in doses the thyroid secreting cells. Much care should be used in x-ray treatment. Surgically, resection of the gland has been most advantageous in the largest number of instances in cutting down the dose of thyroidin. Surgery has met with numerous difficulties; the chief of which being the correct amount of the gland to remove. We have all seen myxedema resulting, in thyroidectomized individuals, quieting of symptoms over a period of time, and then a lighting up of the hyperthyroidism following. We must make the comment here that the greatest fault we find with surgical treatment of hyperthyroidism is the fear of removing

too much of the gland. If this fear be eradicated more lasting cures of hyperthyroidism will be effected.

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#### PHYSICIANS WHO LOCATED IN IOWA IN THE PERIOD BETWEEN 1850-1860

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D. S. FAIRCHILD, M.D., F.A.C.S., Clinton

JOHN C. HUGHES, M.D., Keokuk

Dr. John C. Hughes, was born in Washington county, Pennsylvania, April 1, 1921, and died in Keokuk August 10, 1881. Dr. Hughes represented the type of strong men who came to Iowa at a relatively early day.

It is a curious and interesting fact that Iowa grew into a state without a definite plan, and apparently made the best of things as they came along. It is unfortunate perhaps that Iowa developed without much regard to the experience of older states, but rather prided herself on her independence of precedent and often adopted methods tried out and abandoned by other states, frequently no doubt at a great expense of time and resources. Happily, here and there, strong men came forward with a vision to the future to direct the ignorant and selfish who gave little thought to the days to come.

It does not appear that Dr. Hughes was particularly active in political affairs, but devoted his energies to developing and co-ordinating the activities of his profession which he so ably represented, and to welfare service of the city in which he lived. During his lifetime Keokuk was the recognized medical center of Iowa.

In 1850 the Keokuk College of Physicians and Surgeons was located in Keokuk after migrating from La Porte, Indiana, in 1846 where it was born, to Madison, Wisconsin, 1847; Rock Island, 1848; Davenport, 1849; to Keokuk its permanent home, 1850.

Dr. Hughes studied medicine in Baltimore, Maryland, with Dr. Joseph Perkins and graduated from the University of Maryland in 1845. He began practice in Mt. Vernon, Ohio. In 1850, he came to Keokuk and was elected demonstrator of anatomy in the medical school which was soon to become recognized as the medical department of the Iowa State University. In 1851 he was made professor of anatomy. In 1852 was elected dean of the faculty and in 1853 professor of surgery which position he held to the time of his death in 1881.

The duties of his office as dean involved a wide range of activities. A medical college sixty or seventy years ago was in a measure a business

institution. It had no endowment fund, and was generally owned by a small group of men who sought to provide a "drawing faculty" to attract students and provide money in various ways; student fees were mainly relied upon to pay expenses and provide a return on the money invested.

Dr. Hughes was a man of much tact and was fortunate in establishing friendly relations with the profession of Iowa and neighboring states. The requirements for entrance and for graduation were not high and the success of the school was measured more by the number of students and the personnel of its faculty than by its efficiency in preparing young men for scientific medical practice.

Dr. Hughes was appointed surgeon general of the state by Governor Kirkwood at the outbreak of the Civil War; a position he held until its close. He was chairman of the Board of Medical Examiners and did much to aid the governor in organizing the medical service of the Iowa regiments. During this service, he was in charge of the Army Hospital at Keokuk.

Dr. Hughes was elected president of the Iowa States Medical Society in 1856 and again in 1866, he and Dr. Thomas Sivester were the only men elected twice to that office. Dr. Hughes was made chairman of the section on surgery at the Richmond meeting of the American Medical Association and was a charter member of the American Surgical Association.

Dr. Hughes was a skillful surgeon and an able diagnostician. He was also a man of affairs and enjoyed an enviable reputation and influence throughout the state. He was a member of the Iowa branch of the Christian Sanitary Association and rendered valuable service as such to the soldiers at the front and in the hospitals during the Civil War.

He was editor of the first medical journal published in Iowa under the name of the Iowa Medical Chirurgical Journal, and later changed to the Iowa Medical Journal. Altogether, Dr. Hughes was easily the surgeon standing first in the history of Iowa.

#### DR. HENRY CLAY BULLIS

Dr. Henry Clay Bullis of Decorah was born in Clinton county, N. Y., November 14, 1830, died in Decorah, September 7, 1897. Dr. Bullis was a man of varied experience and activities. From the age of nineteen to twenty-one he taught school in winter and worked on his father's farm in summer. When he had reached his majority he added to his previous labors the study of medicine. After six years of teaching, farming and

studying medicine he attended two courses of medical lectures at the Vermont Medical College at Woodstock and graduated in the summer of 1854. In 1887 he received an additional degree from Jefferson Medical College, Philadelphia. Dr. Bullis came to Decorah October 28, 1854, and for one month taught school when he entered upon the practice of his profession, which he followed for more than forty years. Decorah was then a small village in an unsettled country save here and there a farmer who was locating a home. Dr. Bullis received but a limited education yet with energy, accumulated experience and exceptional executive ability, he was fitted to extend his activities beyond the routine of an early country practitioner. He became active in local affairs and in 1865 he was appointed United States examining surgeon for pensions which position he held until 1876 when he resigned to accept an appointment as a member of the Sioux commission. Earlier or in 1856, he was appointed by Judge Reed, commissioner for the sale of intoxicating liquors which position he held for one year when this office was abolished. A little later the office of county superintendent was created when Dr. Bullis was elected in April, 1858 to fill it, he being the first incumbent, for a period of two years. In October, 1863, he was elected county supervisor serving two years, the last year as chairman of the board. In the fall of 1865 Dr. Bullis was elected by the republican party to represent Winneshiek county in the state senate, at the end of a four year term he was re-elected. While in the senate he served as chairman of the committee on claims, and also as chairman of the State University committee. He devoted much time to the interests of the university and was a moving spirit in building it on a solid foundation and served for eighteen years as regent, declining re-election. In the middle of his second term as state senator and while serving as president, he was nominated and elected lieutenant governor by the republican party. It was in August, 1876, that President Grant appointed Dr. Bullis a member of the Sioux Indian Commission which was created for the purpose of purchasing the Black Hills Reservation, one of the important facts in the political history of the country in which Dr. Bullis had an active part. In 1878 he was appointed by President Grant, special United States Indian Agent which position he resigned after nine month service. In April, 1883, he was appointed special agent of the General Land Office but resigned after eight months service. Both these offices involved traveling and exposure beyond his strength hence his



resignation. In 1880-81 and in 1889-90 he served as mayor of Decorah. In the latter term he resigned to accept the appointment as postmaster which position he held four years. Was president of the Iowa State Medical Society in 1876.

Dr. Bullis was married September 11, 1854 to Miss Laura A. Adams of Champlain, New York, who died in 1861. In June, 1863, he married Miss Harriette B. Adams, a sister of the first wife. Few physicians have had a wider or more varied experiences than Dr. Bullis. The writer has a clear recollection of Dr. Bullis. He was a man of attractive personal appearance; a man of little more than average height, rather slender but erect and active; dressed in the conventional clothes of the professional man of that day, a ready and fluent speaker, and was admired by the younger men of the profession whose ideas were not disturbed by the revelations of the bacteriologists.

#### DR. J. W. SMITH

Dr. J. W. Smith was born in Franklin, New York. Graduated from the medical department of Yale University in 1856. Located in Charles City, Iowa, March, 1857. Dr. Smith became a member of the Iowa State Medical Society in 1872 and was one of the most active members in the work of the society. He was a recognized surgeon in northern Iowa and appears to have been the first in this state to perform a supravaginal hysterectomy. In May, 1872, Dr. Smith removed a fibroid tumor of the uterus by "gastrotomy," including the uterus, which weighed fifteen pounds. "This operation was not advised but was done at the urgent solicitation of the suffering but heroic woman aged thirty-two. Death occurred on the sixth day." We have a vivid recollection of Dr. Smith who was known in the State Society as "irrepressible Smith" for the reason no doubt, that no paper passed without "Smith of Floyd" taking part in the discussion. In the American Medical Association he was known as "Smith of Iowa" for the same reason. He was rigid in his temperance views and lost no opportunity to bring prohibition into the discussions of the society.

#### DR. CHARLES W. DAVIS

Dr. Davis was born in Troy, Ohio, January 4, 1823, and died in Indianola July 20, 1881. Dr. Davis graduated A. B., Wabash College, Crawfordville, Indiana, in 1848, and M.D. from Rush Medical College, 1853. After practicing at Carlisle for three years, removed to Indianola in 1856 where he practiced until the time of his death.

On October 15, 1862, Dr. Davis was mustered into the United States service as surgeon of the Thirty-fourth Iowa Infantry. After active service under General Sherman, he resigned November 25, 1863, and resumed practice in Indianola taking an active part in professional matters.

In 1869, Dr. Davis became a member of the Iowa State Medical Society and in 1876, a member of the American Medical Association.

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#### ACTION FOR SERVICES RENDERED NON-RESIDENT PATIENT

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The Supreme Court of Iowa, in affirming a judgment in favor of the plaintiff, in an action on an account, says that the defendant, formerly a resident of Iowa, became a resident of South Dakota in the spring of 1919. In the fall of that year, she returned to Iowa, where the plaintiff, a physician, attended her during confinement. It was to recover for those services that this action was brought. What the defense relied on was the statute of limitations of South Dakota, which is six years on an open account. The contention was that, as that period had elapsed between the rendition of the services and the commencement of this action, it was barred under the provisions of the South Dakota statute. This position, however, was untenable. The section of the Iowa code says that when a cause of action has been fully barred by the laws of any country where the defendant has previously resided, such bar shall be the same defense in Iowa as though it had arisen there, but its further plain provision does not apply to causes of action arising within the State of Iowa. The services in question were rendered by the plaintiff, and the cause of action arose in Iowa. It was therefore, immaterial that the action could not be maintained in South Dakota because of the bar of the statute of that state.—*Journal of A. M. A.*, April 8, 1922.

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#### TREATMENT OF ANGIOMA BY RADIUM

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M. Robineau reported to the Paris Surgical Society, two observations on parotid angionomas in very young infants who were cured by radium. The patients returned after a considerable time in perfect condition. The advantage of radium over other methods of treatment is the advantage of being applied to all regions with the greatest facility. Its employment is painless and leaves no scar and avoids (in the case of parotid angionomas) injury to the facial nerve. Its action is more efficacious when the lesion is of recent origin. Also M. Degrais, who irradiated M. Robineau's patients, recommends the commencement of the treatment from the date of birth.—(*La Presse Medicale*.)

# The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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## PERKIN'S TRACTORS

In these days of wonderful and mysterious methods of treatment, we have forgotten that in the latter part of the eighteenth century and the early part of the nineteenth, a method of treatment was in vogue equal in strangeness to anything we have now and attracted the attention of great and small then, as now. The advantage in the study of medical history lends a feeling of comfort when we reflect on the waywardness of the human mind in accepting strange methods of cure of disease based upon physical evidence and occult philosophical reasoning.

At a recent meeting of the Boston History Club, Dr. Walter R. Steiner of Hartford, read a paper on Dr. Elisha Perkins and his Metallic Tractors. The great popularity of Perkin's Tractors from 1796 to 1803 and the fact that they were forgotten in 1811 leads us to reproduce a part of Dr. Steiner's paper.

"Dr. Elisha Perkins was born in Norwich, Connecticut, on January 16, 1741. His medical education came largely from his father Dr. Joseph Perkins, a well-known and respected physician of that vicinity. He settled in Plainfield for the practice of his profession and became prominent and popular, giving largely to the support of the academy and taking many of the students into his own house to live. It is said that his family at times numbered fifty. During the Revolution he was surgeon to the Eighth Infantry. In his practice he had noted the influence

of metallic substances on nerves and muscles, and had observed the contraction of muscles under the knife. This led to his discovery in 1796, of his famous metallic tractors. These consisted of two rods of metal, about three inches long, shaped like horseshoe nails, with the legend "Perkin's Patent Tractors" stamped on them. One of these was made of copper, zinc, and a little gold; the other consisted of iron, silver and supposedly platinum. The pair cost about a shilling to manufacture and sold for two guineas. "To Perkinize" was to draw the instruments alternately across the painful part, or from the painful part to the extremity. It was, however, stated that this "does not always relieve headache due to the excessive use of strong drink."

The discovery was reported at a meeting of the Connecticut Medical Society, but was apparently received with some doubt. However, Dr. Perkins went with his tractors to Philadelphia and took that city by storm. Congress was sitting at the time and prominent legislators became his patients. Washington was reported to have purchased a set, and so popular did they become that people sold horses and carriages to buy them. One speculative individual sold his plantation and took the pay in tractors. In February, 1796, a patent was taken out. The Connecticut Medical Society, refusing to honor its own prophet, condemned the practice at this time, and the following year expelled the discoverer from the body. In 1799 he died in New York of typhoid, a disease he had gone there to cure with his tractors.

Benjamin, a son of the inventor, and a graduate of Yale, went to London in 1795 and opened an office to introduce the tractor. In applying for a patent in England he explained that it was "generally believed that they act on the galvanic principle." This, however, was but one of several explanations of their action. Among many cited in his book as users of the tractors were nine members of the clerical profession, six of them doctors of divinity. One person, less favorably impressed, wrote: "If they have ever relieved pain I have found them useful also in picking walnuts." Several books appeared extolling the virtues of the tractors; one was published in Copenhagen (Denmark had fallen before the tractors) and translated into German and English. Fifty cases formed the basis of this Danish report.

The tractors, it was stated, must be applied three times daily for one-half an hour. They were not effective in venereal or scrofulous diseases. As proof that imagination had no part in the cures attributed to the tractors it was pointed



out that they were equally effective on infants, in epileptic fits, and on dumb animals, where no imagination could exist. Mr. John Grant of Leighton, Buzzard of Bedfordshire, found the metallic tractors "equally useful on the brute animal as on the human subject, and I think they are more active on the horse than on those which chew the cud as sheep, cows, etc."

The first Perkinian Institution was opened in 1804 in Frith street, Soho square, London. Many others followed. One poem of lasting fame resulted from the tractors. Supposed to be a satire on Perkinism, it was probably written at the instigation of Benjamin Perkins by a Vermont inventor in London and is in reality a bitter satire against the Royal College of Physicians.

"The Modern Philosopher, or Terrible Tractorations! A Poetical Petition Against Galvanizing Trumpery and the Perkinistic Institution in Four Cantos, Most Respectfully Addressed to the Royal College of Physicians by Christopher Caustic, M.D., LL.D., A.S.S., Fellow of the Royal College of Physicians, Aberdeen, and Honorary Member of no less than nineteen very learned Societies."

Benjamin Perkins left England in 1803 with ten thousand pounds derived from the sale of tractors, and established in New York in the bookselling business. He died soon after at the age of thirty-seven. By 1811 the tractors were almost forgotten."

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#### MEDICAL CARE FOR DISABLED VETERANS

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In the editorial column of the last issue of the Journal, attention was called to the work of the United States Veterans' Bureau, and it was pointed out that fundamentally this work was of a medical character and therefore should be of primary interest to the medical profession. The Ninth District of the U. S. Veterans' Bureau includes the states of Missouri, Iowa, Kansas and Nebraska, the headquarters of the District being located at 6801 Delmar Blvd., St. Louis, Missouri. Although the conduction of this work requires a very large organization, certain phases of the work can be considered separately for the purpose of clearness. It should be understood that the federal organization, the U. S. Veterans' Bureau, cannot accomplish to the highest degree its purpose of maintaining the welfare of the disabled veteran without the full co-operation of other agencies interested in similar purposes. Such co-operation is being freely given and there has been, as an example of this, recently organized a District Rehabilitation Committee acting

with the National Rehabilitation Committee of the American Legion, and this committee is now investigating the facilities for and conduct of rehabilitation work in the 9th District of the U. S. Veterans' Bureau. The committee members and their respective fields of inquiry are: Dr. Fred W. Bailey, General Medical and Surgical; Dr. H. Unterberg, Neuropsychiatric; Dr. E. L. Opie, Tuberculosis; Prof. J. L. Van Ornum (Washington University), Vocational Training Interests and G. H. W. Rauschkolb, Compensation and Insurance. General members of the committee are: Dan F. Steck, Iowa; Wilber S. Metcalf, Kansas; Clinton Brome, Nebraska, and Dr. H. F. Parker, Missouri. The chairman is H. D. McBride, of St. Louis, and Robert Burkman, St. Louis, is vice-chairman.

At the present time we have available the preliminary report of the committee, which aims to render an exact and comprehensive report of the conditions existing in the Ninth District regarding the medical treatment afforded veterans and the facilities available for hospitalization and clinic treatment.

The committee finds that there is at present but one government owned hospital in the Ninth District, that being the U. S. Veterans' Hospital No. 57 at Knoxville, Iowa, which has a capacity of 170 beds and is used wholly for the care of veterans with psychoses. This institution was formerly a state inebriate asylum.

There are four hospitals which are leased outright by the government, as follows: U. S. Veterans' Hospital No. 35, at St. Louis. This was formerly an almshouse and the building and facilities are declared by the committee to be inadequate for the proper medical treatment of any type of case. Its capacity is 650 beds and all types of cases are at present housed in it, including medical, surgical, tuberculosis and neuropsychiatric. U. S. Veterans' Hospital No. 67, at Kansas City, Missouri. This was formerly a general hospital with capacity of 130 beds and has good facilities for medical and surgical cases and for the observation of suspected tuberculosis. U. S. Veterans' Hospital No. 75, at Colfax, Iowa. This was formerly a resort hotel with capacity of 200 beds. Facilities are only fair for medical and surgical cases. The building is a fire trap and the facilities are not in line with the requirements of modern ideas of hospital treatment. The National Military Home, Kansas, as the name indicates, is a home for aged, disabled volunteer soldiers, but arrangement has been made for 200 beds for the use of the U. S. Veterans' Bureau. The medical facilities and personnel at this institution do not

warrant the hospitalization of patients in need of active medical treatment.

All other hospital facilities are provided by contract with existing institutions, the government turning its disabled veteran patients over to the regular personnel of these institutions, with no direct supervision of the patients. The following are a few of the hospitals now under contract with the government in the Ninth District:

For general medical and surgical purposes there are the Iowa Lutheran Hospital, Des Moines, Iowa; the Mercy Hospital, Iowa City, Iowa; Wesley Hospital, Wichita, Kansas; Lincoln Sanatorium, Lincoln, Nebraska; Swedish Hospital, Omaha, Nebraska. For tuberculosis cases there are the State Sanatorium, Oakdale, Iowa; State Sanatorium, Norton, Kansas; Jasper County Hospital, Webb City, Missouri; Mt. St. Rose Sanatorium, St. Louis, Missouri; State Sanatorium, Mt. Vernon, Missouri. For neuropsychiatric cases there are the Cherokee State Hospital, Cherokee, Iowa; Independence State Hospital, Independence, Iowa; Topeka State Hospital, Topeka, Kansas; Puntun Sanatorium, Kansas City, Missouri; State Hospital No. 1, Fulton, Missouri; State Hospital, No. 2, St. Joseph, Missouri; State Hospital No. 3, Nevada, Missouri; State Hospital No. 4, Farmington, Missouri; St. Louis City Sanatorium, St. Louis, Missouri; Lincoln State Hospital, Lincoln, Nebraska; Still-Hilldreth Sanatorium, Macon, Missouri.

The committee finds that the total bed capacity for the Ninth District may be divided as follows: Government owned, 172; government leased, 1,176; contract, 319.

Later reports to be issued on the work of this committee will concern the adequacy of the facilities mentioned and will make recommendations for changes which seem advisable. Such recommendations will be referred to the National Rehabilitation Committee of the American Legion and to the manager of the Ninth District U. S. Veterans' Bureau for action.

The Journal of the American Medical Association for May 27 gives a percentage list for states receiving the Journal which does not appear to throw any particular light upon the intelligence of the doctors of the different states. Iowa, for instance, has a uniform paid up membership of 2330 members and 1972 copies of the Journal A. M. A. or 56 per cent; Kansas has 50 per cent; Illinois 64 per cent; Indiana 45 per cent; Missouri 43 per cent; Minnesota 70 per cent; Nebraska 57 per cent; Ohio 49 per cent; North Da-

kota 67 per cent; Minnesota the largest per cent, 70, and New Jersey next largest, 67 per cent; Kentucky the smallest, 31 per cent; New York 55 per cent; Pennsylvania 60 per cent; Wisconsin 66 per cent.

Whether the thoroughness of local organization has any influence we do not know, but it is possible, for instance; Utah has 64 per cent and Iowa 56 per cent; Kentucky 31 per cent, and Arizona 65 per cent.

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### PERSONAL

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Dr. James Taggart Priestley of Des Moines celebrated his seventieth birthday and fifty years of practice, July 19, 1922. Dr. Priestley was born in Northumberland, Pennsylvania, July 19, 1852. His great grandfather was Joseph Priestley, who discovered "pure dephlogistized air," later named "oxygen" by French chemists. Joseph Priestley was born in England in 1733, came to America in 1794 and died in Northumberland, Pennsylvania, in 1804. He was an intimate friend of Benjamin Franklin who urged him to locate in Philadelphia. He was offered the chair of chemistry in the University of Pennsylvania, but preferred the quiet life of a small town where he established a laboratory. Joseph Priestley was a minister and accepted the position of pastor of a small Unitarian Church. Dr. James Taggart Priestley's father was a veteran of the Mexican War.

Scientific study and the practice of medicine had an attraction for the Priestley family. Sir William O. Priestley, a member of the family, was a celebrated English obstetrician.

Following Dr. James Taggart Priestley was his son Dr. Crayke Priestley, a young man of great promise, who died early in his professional career, and the two grandsons are now attending the medical school of the University of Pennsylvania.

Dr. James Taggart Priestley located in Des Moines in 1876 and devoted himself to internal medicine. At that time there were but few specialists and in our country, medicine and surgery were joined, but in a few years, by a process of election in centers of population, men became physicians or surgeons. Dr. Priestley believing there was a wider field in internal medicine, elected the latter and consistently adhered to his choice which brought him honor and distinction. He once stated to the writer that he had sustained at one time or another, the relation of physician or consultant to every Supreme Court Justice of Iowa, which he held a distinguished appreciation, a sentiment we fully concurred in.

Dr. Priestley now lays aside the duties of active



practice with a feeling that he has passed through the dangers which beset a physician, for a period of half a century with a clean record, and met all the conditions of friendly and unfriendly criticism with absolute safety.

### CHIROPRACTORS

The Journal of the Indiana State Medical Association informs us that the chiropractors' Schools are so numerous in Fort Wayne that it is difficult to keep track of them, and that the chiropractic signs out-number the signs of all real doctors put together. We are assured, however, that there has been no falling off in the practice of real doctors. It appears that the strife among the chiropractors in securing adjustment cases is liable to disrupt the business and thus settle the question.

The editor comments on the important question of medical education in Great Britain and finds a way out for the British profession:

The British Medical Journal, in launching a campaign to better the personnel of the medical profession, makes the statement that "No one should think of entering this profession who is unprepared to spend \$75,000 on his medical education." Is it possible that England has not heard of chiropractic for the cure of all diseases and ailments from cancer to chicken-pox, the science of which can be learned in from three to six months, at a cost not to exceed \$100! Why spend \$75,000! England indeed is "behind the times" if she still believes in long medical courses covering physiology, anatomy, bacteriology, histology, pathology, etc., etc., when such knowledge is entirely superfluous and all that is necessary is a little exercise and training of the fingers to "manipulate" the vertebrae for the cure of any and all diseased conditions! Someone should advise the British Medical Journal of its terrible error in making such a statement.

### HOMEOPATHY IN STATE UNIVERSITIES

The Iowa Homeopathic Journal, January number, discusses editorially the unfortunate state of homeopathic medicine. The writer (G. R.), loses sight of the fact that the doctrines of Similia Similabus Curator and Contraria Contrariis Curantur are obsolete and that the two great schools of medicine have joined in the common purpose of cultivating medicine on scientific principles.

The action of the Board of Regents of the State University of Michigan in amalgamating the two schools of medicine, is another victory for the allopath against the homeopath. Slowly but surely might is conquering over right. First it was the

State of Minnesota, where the forces of the A. M. A. working through the legislature and the Board of Regents caused the death of the homeopathic school in Minnesota. The second battle was fought in Iowa. Here the little band of homeopaths fought the enemy for years, both before the legislators and before the board of education. Finally a specious plea for harmony influenced the leaders of the two forces to compromise the matter. The legislature with the consent of both parties enacted a law establishing a Department of Homeopathic Materia Medica and Therapeutics in the College of Medicine in the State University. The understanding was that this department should have all the rights and privileges of any other department in the College of Medicine.

But when the test was made, the attendance of the students in the Department of Homeopathic Medicine and Therapeutics was made optional. A condition which did not exist in any other department of the College of Medicine. After attempting to maintain the department, the head resigned; resignation taking effect June 30, 1921. The resignation, however, was sent the board of education before the legislature met in 1921, in order to give the board of education an opportunity to have the law changed if the board saw fit. No change, however, was made, and the law still stands "authorizing and directing" the board of education to maintain the chair. Notwithstanding this fact, neither a head for the department or assistants of any kind have been provided by the board of education. There are points of similarity in the methods and means of securing their end in the three states above mentioned. The chief argument in each state was economy. Dr. Copeland, before the meeting in Ann Arbor, Michigan, showed how ridiculous this claim was by showing that thousands of dollars annually were spent teaching such subjects as "Old Norse, Xenophon's Anabasis, the Olympian and Pythian odes, and similar courses." He then pictured the benefit for humanity of teaching homeopathic medicine rather than the above named subjects. What the result of the committee to work out the details of the amalgamation may be, one thing is certain, viz., that it is not the intention of the old school of medicine to have the principles and practice of homeopathy taught in the University of Michigan or any other university. Another method of the enemy of homeopathy is to concentrate his efforts on one point at a time. He first perverted the intent of the legislature in the State of Missouri; he then did the work rapidly, but efficiently in the State of Minnesota; he then began work in the State of Iowa, meanwhile directing a side attack on us in the State of California; finishing his work in the State of Iowa, he then concentrated upon Michigan. Since the work was completed in Michigan, which was during its last legislative session, he has already begun in the State of Ohio, in which state he has been preparing his forces since our college was established in the Ohio University. While the defenses of the State of Ohio are much stronger

than were those in any of the other states, on the other hand, the enemy has eliminated our forces at the other points and is now in position to use every means at his command to secure victory in Ohio. Every lover of homeopathy, of truth and justice, should unite in an effort to assist the standard bearers in the State of Ohio.

### TRI-STATE MEDICAL ASSOCIATION

The physicians of Iowa are most cordially invited to attend the annual assembly of the Tri-State District Medical Association which is to be held at Peoria, Illinois, October 30, 31, November 1 and 2.

The entire time of the assembly, outside of a few social features will be taken up with scientific addresses, essays and diagnostic clinics. The diagnostic clinics are a very important part of the assembly. They will start every morning at 7 o'clock and continue throughout the forenoon. The afternoon and evening sessions will be taken up with literary contributions.

The territory covered by this organization includes the entire states of Illinois, Iowa and Wisconsin and districts of surrounding states. The attendance promises to be very large, therefore, you are requested to make your arrangements for attending the assembly as early as possible.

Synopsis of the program of the annual assembly of the Tri-State District Medical Association held at Peoria, Illinois, October 30, 31, November 1 and 2:

#### FIRST DAY

Monday, October 30, 1922, 7 a. m.

1. Diagnostic Clinic (Surgical). Preference, abdominal cases. Dr. William Seaman Bainbridge, New York, N. Y.

2. Diagnostic Clinic (Medical). Preference, cardiac, mediastinal, pleural or intrapulmonic disease. Dr. Charles F. Hoover, Prof. of Medicine; Western Reserve University, School of Medicine, Cleveland, Ohio.

3. Diagnostic Clinic (Surgical). Dr. Emmett Rixford, Prof. of Surgery, Leland Stanford Junior University, School of Medicine, San Francisco, California.

#### Intermission

4. Diagnostic Clinic (Medical). Preference, peptic ulcer, anemia, or goiter cases. Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tennessee.

5. Diagnostic Clinic (Surgical). Preference, abdominal cases. Dr. John B. Deaver, Prof. of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.

#### Afternoon Session—1 p. m.

6. (a) Diagnostic Clinics (Nervous Diseases). One epileptic patient, one brain tumor, one spinal cord tumor, one trifacial neuralgia, one spina bifida, one cerebral arteriosclerosis, one pernicious anemia.

Dr. Alfred W. Adson, Dr. Henry W. Woltman, Mayo Clinic, Rochester, Minnesota.

(b) Diagnostic Clinic (Nervous Diseases). Preference, brain tumor, spinal cord tumor, fracture of the spine, old fracture of skull with epilepsy. Dr. Charles A. Elsberg, Prof. Clinical Surgery, University and Bellevue Hospital, Medical College, New York, N. Y.

7. "Injuries of the Cornea." Dr. Alfred N. Murray, Chicago, Illinois.

8. Diagnosis and Treatment of Epilepsy. Dr. Edward M. Williams, Sioux City, Iowa.

9. (Wisconsin man).

10. "Respiratory Excursions of the Thorax." Dr. Charles F. Hoover, Prof. of Medicine, Western Reserve University, School of Medicine, Cleveland, Ohio.

#### Intermission

11. "Mechanics of Production of Fractures and Methods of Treatment derived therefrom." (Blackboard drawings, lantern slides.) Dr. Emmett Rixford, Prof. of Surgery, Leland Stanford Junior University, School of Medicine, San Francisco, California.

12. "The Distribution and Delivery of Medical Service." Dr. Frank E. Sampson, Creston, Iowa.

13. "Tumors of the Breast; A study of 255 cases. (Lantern slides.) Dr. William D. Haggard, Prof. of Surgery, Vanderbilt University, School of Medicine, Nashville, Tennessee.

#### Evening Session—7 p. m.

14. "The Treatment of Deformities of the Upper Extremities." Dr. Arthur Steindler, Prof. Orthopedic Surgery, University of Iowa, School of Medicine, Iowa City, Iowa.

15. "Dacryocystitis—Its Cure by a Combined Intra and Extra-Nasal Operation." Dr. J. Sheldon Clark, Freeport, Illinois.

16. "Ectopic Gestation with Report of Cases." Dr. Thomas W. Nuzum, Janesville, Wisconsin.

#### Intermission

17. "The Sequelae of Some Unusual Traumata." Dr. Oliver J. Fay, Des Moines, Iowa.

18. "The Management of Maternity." Dr. William D. Chapman, Secretary Illinois State Medical Society, Silvis, Illinois.

19. "Drug Addiction and The Harrison Narcotic Law." Dr. Ernest S. Bishop, Clinical Prof. of Medicine, New York Polyclinic Medical School, New York, N. Y.

#### SECOND DAY

Tuesday, October 31, 1922, 7 a. m.

1. Diagnostic Clinic (Nose and Throat). Preference, nose and throat cases. Dr. Greenfield Sluder, Prof. of Laryngology and Rhinology, Washington University, School of Medicine, St. Louis, Missouri.

2. Diagnostic Clinic (Pediatrics). Preference, pediatrics, Harvard University, School of Medicine, Boston, Massachusetts.

3. Diagnostic Clinic (Surgical). Dr. William D.



Haggard, Prof. of Surgery, Vanderbilt University, School of Medicine, Nashville, Tennessee.

Intermission

4. Diagnostic Clinic (Medical). Preference, chest case (heart, lungs, or mediastinum) or a case of fever. Dr. Lewis A. Conner, Prof. of Medicine, Cornell University, School of Medicine, New York, N. Y.

5. Diagnostic Clinic (Surgical). Dr. John M. T. Finney, Prof. of Clinical Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

Afternoon Session—1 p. m.

6. "The Development of Brain and Spinal Cord Surgery and its Significance for the Specialist and for the General Practitioner." Dr. Charles A. Elsberg, Prof. Clinical Surgery, University and Bellevue Hospital, Medical College, New York, N. Y.

7. "Medical Education, Past and Present." Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tennessee.

8. "Better End Results in operations for gastric and duodenal Ulcer." Dr. John M. T. Finney, Prof. of Clinical Surgery, Johns Hopkins University, Medical Department, Baltimore, Maryland.

9. "The Modern Conception of Acidosis." Dr. Julius Weingart, Des Moines, Iowa.

Intermission

10. (Wisconsin man.)

11. "Observations on Lobar Pneumonia." Dr. Francis G. Blake, Prof. of Medicine, Head of Department of Medicine, Yale University, School of Medicine, New Haven, Connecticut.

12. "Cholecystitis—A Typical Manifestation." Dr. August Frederic Jonas, Prof. of Surgery, University of Nebraska, School of Medicine, Omaha, Nebraska.

13. "X-ray Diagnosis in Tuberculosis, Syphilis, and Osteomyelitis of the Bones." Dr. Robert W. Lovett, Prof. of Orthopedic Surgery, Harvard University, School of Medicine, Boston, Mass.

Evening Session—7 p. m.

14. "Chronic Fatigue Intoxication." Dr. Edward H. Ochsner, President-elect Illinois State Medical Society, Chicago, Illinois.

15. Subject later. Dr. Walter L. Bierring, Des Moines, Iowa.

16. (Wisconsin man.)

17. "The Control of Mandibular Pain Through the Nasal (Sphenopalatine-Meckel's) Ganglion; The Control of Ear-ache through the Nasal (Sphenopalatine-Meckel's) Ganglion." Dr. Greenfield Sluder, Prof. of Laryngology and Rhinology, Washington University, School of Medicine, St. Louis, Missouri.

Intermission

18. "Trifacial Neuralgia; its Symptoms, Diagnosis and Treatment." Dr. Alfred W. Adson, Mayo Clinic, Rochester, Minnesota.

19. Subject later. Dr. Joseph A. Pettit, Prof. of Surgery, North Pacific College, Portland, Oregon.

THIRD DAY

Wednesday, November 1, 1922, 7 a. m.

1. Diagnostic Clinic (Orthopedic). Preference, orthopedic cases. Dr. Robert W. Lovett, Prof. of Orthopedic Surgery, Harvard University, School of Medicine, Boston, Massachusetts.

2. Diagnostic Clinic (Surgical). Preference, abdominal cases. Dr. John H. Gibson, Prof. of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia, Pennsylvania.

3. Diagnostic Clinic (Medical). Preference, rheumatic and arteriosclerotic heart disease and show cases with heart failure. Dr. Francis G. Blake, Prof. of Medicine, Head of Department of Medicine, Yale University, School of Medicine, New Haven, Connecticut.

Intermission

4. Diagnostic Clinic (Surgical). Dr. Alexander Primrose, Dean and Prof. Clinical Surgery, University of Toronto, Faculty of Medicine, Toronto, Canada.

5. Diagnostic Clinic (Surgical). Preference, goiter and abdominal cases. Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

Afternoon Session—1 p. m.

6. "Gastric and Duodenal Ulcer." Dr. John B. Deaver, Prof. of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.

7. "Malignant Tumors of the Breast." Dr. Alexander Primrose, Dean and Prof. Clinical Surgery, University of Toronto, Faculty of Medicine, Toronto, Canada.

8. "The Diagnosis of Pericardial Effusion with Special Reference to Physical Signs on the Posterior Aspect of the Thorax." Dr. Lewis A. Conner, Prof. of Medicine, Cornell University, School of Medicine, New York, N. Y.

9. "The Liver, Gall-bladder and Ducts." (a) Relation of the liver to the organism as a whole. (b) Its significance in surgical operations and diagnosis. (c) Possible new role of the liver. Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

Intermission

10. "The Oedematous Cardiopath." Dr. Joseph M. Patton, Prof. of Clinical Medicine, University of Illinois, School of Medicine, Chicago, Illinois.

11. "Chronic Indigestion in Children." Dr. John Lovett Morse, Prof. Emeritus of Pediatrics, Harvard University, School of Medicine, Boston, Massachusetts.

12. "The Technique in Certain Forms of Osteosynthesis." Dr. Einar Key, Riddaregatan 1, Stockholm, Sweden.

13. "Physiology and Abdominal Surgery." Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

**Evening Session—7 p. m.**

14. "Surgical Judgment." Dr. John H. Gibbon, Prof. of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia, Pennsylvania.

15. "Syphilis of the Nervous System." Dr. Clarence Van Epps, Iowa City, Iowa.

16. "A report on deep x-ray therapy of cancer as practiced in Germany." Dr. Roswell L. Pettit, Ottawa, Illinois.

**Intermission**

17. Subject later. Dr. George V. I. Brown, Milwaukee, Wisconsin.

18. "Multiplex Pathology and the Cancer Problem." Dr. William Seaman Bainbridge, New York, New York.

**Smoker****FOURTH DAY**

**Thursday, November 2, 1922, 7 a. m.**

1. Diagnostic Clinic (Medical). Preference, gastric diseases with special reference to methods of examination. Dr. Charles F. Martin, Prof. of Medicine, McGill University, Faculty of Medicine, Montreal, Canada.

2. Diagnostic Clinic (Gynecological). Preference, chronic diseases of the tubes or tubo-ovarian disease or pelvic troubles. Dr. Walter W. Chipman, Prof. of Obstetrics and Gynecology, University of McGill, Faculty of Medicine, Montreal, Canada. Dr. John G. Clark, Prof. of Gynecology, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.

3. Diagnostic Clinic (Medical). Preference, acute or chronic types of any form of infectious arthritis; nephritis cases. Dr. Frank Billings, Prof. of Medicine, Rush Medical College, School of Medicine, Chicago, Illinois.

**Intermission**

4. Diagnostic Clinic (Surgical). Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

5. Diagnostic Clinic (Surgical). Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

**Afternoon Session—1 p. m.**

6. "Basic Factors in the Etiology and Therapeutics of Uterine Hemorrhage." Dr. John G. Clark, Prof. of Gynecology, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.

7. Subject later. Dr. John L. Yates, Milwaukee, Wisconsin.

8. Subject later. Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

9. "The Resourceful General Practitioner and Modern Medicine." Dr. Frank Billings, Prof. of Medicine, Rush Medical College, School of Medicine, Chicago, Illinois.

**Intermission**

10. "The Inflammatory Pelvic Mass." Dr. Walter W. Chipman, Prof. of Obstetrics and Gynecology, University of McGill, Faculty of Medicine, Montreal, Canada.

11. "Some Clinical Aspects of Myocardial Disease." Dr. Charles F. Martin, Prof. of Medicine, McGill University, Faculty of Medicine, Montreal, Canada.

12. Subject later. Professor Theodor Tuffier, Paris, France.

13. Subject later. Dr. Andrew Fullerton, Belfast, Ireland.

**Banquet—7 p. m.**

Presidents of State Societies.

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Conferring of honorary memberships.

The Tri-State District Medical Association, which includes the territory covered by the entire states of Iowa, Illinois and Wisconsin and districts of surrounding states, extends to the medical profession a hearty invitation to be present and participate in the program at the annual assembly, which is to be held at Peoria, Illinois, October 30, 31, November 1 and 2.

This association is purely a scientific body. It assumes no political or legislative duties. The entire time of the assembly, outside of a few social functions, will be devoted to orations, essays, and diagnostic clinics.

A physician in order to become a member of this association must be in good standing in the county and state society in the territory in which he or she resides.

You are cordially invited to bring your wife, daughters or lady friend. Make your hotel reservation early (on account of the large attendance) by communicating with Dr. Sidney Eaton, Secretary of General Committees, Peoria, Illinois. If you have any interesting cases for the clinics, let the Peoria doctors know.

**Signed,**

Dr. Walter L. Bierring, Des Moines, Iowa.

Dr. Edward H. Ochsner, Chicago, Illinois.

Dr. George V. I. Brown, Milwaukee, Wisconsin.  
Program Committee.

Dr. William B. Peck, Freeport, Illinois.

Managing Director.

Note: Dr. George M. Piersol, Prof. of Medicine, University of Pennsylvania, graduate School of Medicine, Philadelphia, Pennsylvania, will deliver an address sometime during the meeting.

**MEDICAL NEWS NOTES**

Articles of incorporation for the new Council Bluffs medical clinic were filed with County Recorder C. W. Atwood Monday, July 3. The clinic is incorporated for \$100,000, with nine local physicians and surgeons as directors.

Doctors who compose the clinic are: Donald Macrae, Jr., V. L. Treyner, M. A. Tinley, Mary Tinley, M. E. O'Keefe, A. C. Johnson, W. E. Ash, C. S. Erickson and C. A. Hill.

One hundred shares of stock at \$1,000 a share are



to be sold while the indebtedness of the clinic is not to exceed \$10,000, unless by unanimous vote, according to the articles of incorporation.

Annual meeting of the stock holders will be held on January 3 of each year, beginning in 1923. The permit issued by Secretary of State Ramsay will not expire for twenty years.

Plans for the clinic building at 532-534 First avenue, next to the Elks' club, have been completed and the contract is expected to be let within the next few weeks. The building will be one of the most modern and well equipped of any of its kind in the Middle West.

The Iowa Pharmacists are making an active campaign to secure a "fair representation in both the senate and house of the state legislature." Unless they secure better results than did the medical profession in the last legislature from members of their own profession, they had better trust their legislative interests to outsiders.—Editor.

#### PROTEST AGAINST THE PROPOSED TOOTH BRUSH TARIFF

The Boston Medical and Surgical Journal offers the following protest to a section of the new tariff bill which proposes to make every American rich and happy inasmuch as it will give the manufacturer better profits and the purchaser cheaper goods.

"The New York City Department of Health has issued a copy of a letter to the chairman of the Finance Committee, United States Senate, protesting against the duty on tooth brushes. The statement follows that there are less than a dozen manufacturers of tooth brushes in this country, and that imported tooth brushes meet the needs of the vast majority of our citizens in quality and price.

"Further, that the cost of illness which would follow the omission of the use of the tooth brush would far outweigh any income from the proposed tariff. Such increase in cost would tend to nullify much of the work done by health departments all over the country, for a great deal of effort has been put forth in instructing people regarding the necessity of using the tooth brush."

#### PRESIDENT LOWELL ON HIGH COST OF MEDICAL EDUCATION

President Lowell of Harvard University in his latest annual report raises a question of much interest to the medical profession and especially to medical students. He calls the rise in the expense of medical instruction "prodigious," and adds that it has reached a point where "we must ask ourselves how much can properly be spent on medical education and how much a community can afford to pay for it." In President Lowell's opinion the problem is so serious that he urges careful investigation, and suggests that there be inquiry whether, by improved methods, the

equipments of the best medical schools cannot be applied to broader field of educational service. He would have some plan devised whereby students now attending less highly developed schools might be enabled to benefit by the equipment of the schools that are provided with the best.—Medical Record, February 11, 1922.

It is with regret that the death is announced of

#### DR. ALEXANDER RIGHTER CRAIG

Secretary of the American Medical Association, which occurred Saturday night, September 2, 1922, at Port Deposit, Maryland

#### CLINIC POLK COUNTY MEDICAL SOCIETY

The date of the Polk County Medical Society Clinic has been changed to October 18, 19 and 20. A tentative program will be mailed to the profession of Iowa during the month.

#### MISSISSIPPI VALLEY MEDICAL ASS'N.

The Mississippi Valley Medical Association will hold its forty-seventh annual meeting at Rochester, Minnesota, October 10, 11 and 12. An interesting program of clinics, clinical demonstrations, and formal papers to be presented by distinguished guests has been arranged.

#### PERSONAL MENTION

Dr. Raymond L. Latchem has located in Sioux City after finishing a service of over three years at the Mayo Clinic and hopes to be able to establish a practice in urology.

Dr. John T. Hanna has located in practice at Burlington where he will specialize in surgery and gynecology.

Dr. H. C. Eschbach of Albia was operated upon at the Presbyterian Hospital, Chicago, June 26.

Dr. Ruehl H. Sylvester resigned from directorship of the Des Moines Health Center at the quarterly meeting of the board of directors at Hotel Savery recently. The resignation is to go into effect September 1.

Dr. T. R. Campbell received his appointment as local surgeon for the Chicago and Northwestern at Sioux Rapids. This position was formerly held by the late Dr. E. E. Smith

Dr. William Seaman Bainbridge, Commander M. C., U. S. N. R. F., has been decorated by the French government with the officer's cross of the legion of honor in recognition of his work with the allied armies at the various fronts and in the preparation of a report on the medical and surgical developments of the war.

Dr. Fred W. Bailey of Cedar Rapids will attend the International Congress of Otolaryngology held in Paris

during the last week in July. His family will accompany him and make a tour of England, Switzerland and Italy, returning to the United States the last of September.

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### HOSPITAL NOTES

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On June 8 the staff of the Park Hospital in Mason City, Iowa, entertained about fifty of their professional friends at a clinic, lasting all day.

While a number of interesting pathological conditions were shown during operation, with demonstration of operative technique, most of the time was given to demonstrations of diagnosis and medical and surgical treatment.

Luncheon was served at the hospital at noon and the visitors were guests of the hospital staff at a banquet at the Eadmar hotel in the evening.

The program was as follows:

9 a. m. Dr. H. D. Fallows. Operative, 7 tonsillectomies; demonstration, pansinusitis.

10 a. m. Dr. C. E. Dakin. Demonstration, fractures; x-ray plates of children's bones; 4 femurs, 2 tibias, 4 colles, 1 skull fracture, 2 humeri.

11 a. m. Dr. V. A. Farrell. Infant feeding, four patients.

11 a. m. Dr. N. C. Stam. Demonstrations; pyelitis, irrigation of kidney pelvis, syphilis with salvarsan administration.

12:30 lunch, for all. Basement of hospital.

1:30 p. m. Dr. L. R. Woodward. Internal Medicine. The decompensated heart.

2:30 p. m. Dr. L. E. Newcomer. Demonstration: Skin diseases, four patients; radium demonstration, 5 patients, epithelioma.

3:30 p. m. Dr. C. F. Starr. Blood Diseases of the new born baby.

4:30 p. m. Dr. Geo. M. Crabb. Operative: Appendectomy, bilateral salpingitis. Demonstration: Duodenal Ulcer and Gall-stones; Pelvic Cellulitis; Second Degree Burn and Skin Graft.

6 p. m. Dinner—Eadmar Hotel.

Dr. Joseph Smith Lowell of Clinton died at Jane Lamb Hospital, October 23, 1921, seventy-five years of age.

Dr. Lowell was born in Hallowell, Maine, August 9, 1846. When the Civil War broke out he enlisted in Co. A, 16th Maine Infantry and served during the entire war.

Dr. Lowell graduated from the Hahnemann College, Chicago, in 1878. Located in Clinton in 1881 where he practiced up to the time of his death, more than thirty-five years. He was married at Fairfield, Iowa, June 16, 1870 to Miss Alice King, who survives him.

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Dr. John Allan Wyeth, who died of heart disease in New York on May 28, 1922, in his seventy-eighth year, was one of that band of Southerners who came to New York to make a high reputation in medicine. We have only to mention J. Marion Sims, Thomas Addis Emmet, Nathan Bozeman and W. M. Polk to recall some of the great ones.

Dr. Wyeth's chief contribution to medicine was the founding of the first post-graduate medical school in the United States, the New York Polyclinic Medical School and Hospital, which had its beginning in 1882. Dr. Wyeth was professor of surgery and president of the faculty, in the school he had organized, for the rest of his life.

The son of Judge Louis and Euphemia Allan Wyeth, he was born in Marshall county, Alabama, May 26, 1845. He attended the La Grange Military Academy and entered the service of the Confederate states as a private. For fifteen months he was a prisoner at Camp Morton, Indiana; for much of the war he was attached to Russell's Fourth Alabama Cavalry. Beginning the study of medicine in 1867, he took his M.D. from the University of Louisville in 1869, the *ad eundem* degree of M.D. being conferred on him by Bellevue Hospital Medical College, New York in 1873. Later degrees given him were LL.D., University of Alabama, 1902, and the same degree from the University of Maryland, 1909.—*Boston Medical and Surgical Journal*, June 8, 1922.

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### OBITUARY

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Dr. Harry L. Courtright, physician and surgeon, died at Keokuk. He was taken ill while on a pleasure trip in the West, and was operated on in Cheyenne, Wyoming. He was brought home and had been in a critical condition since that time.

Dr. Courtright was one of the prominent members of the profession in Keokuk. He was a graduate of the old Keokuk Medical College, and had practiced for many years in Keokuk. He was kindly and sympathetic in his nature, and of a cheerful, friendly disposition.

He practiced in Washington, Iowa, for a time and returned to Keokuk, where he entered into partnership with Dr. W. M. Hogle. They have had offices in same building for several years.

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### MARRIAGES

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Dr. W. V. Cone of Iowa City and Miss Avis Ellen Wood were married at Muscatine, June 14, 1922.

Dr. Aura J. Miller of Burlington and Miss Mamie Turnipseed of Iowa City were married June 29, 1922 at the Presbyterian Church, Iowa City.

Dr. Walter J. Connell and Miss Lucy H. Riggs of Dubuque were married June 22, 1922.

Dr. F. L. Nelson and Miss Lorenza Ingraham of Ottumwa were married at Ottumwa, June 28, 1922.

Dr. W. L. Downing and Miss Marion Klenk of Le Mars were married at Buffalo, Minnesota, June 22, 1922.

Dr. W. P. Sperow of Carlisle and Miss Lola Rodger of Iowa City were married in Newton, June 20, 1922.



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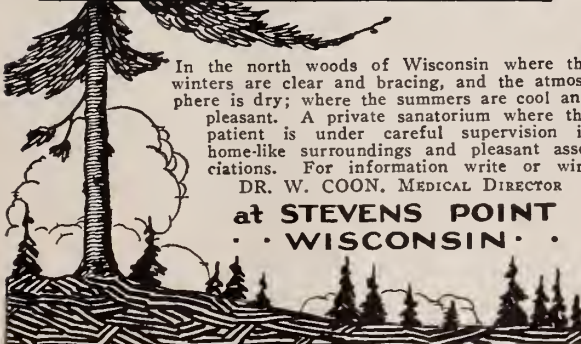
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## BOOK REVIEWS

## PITFALLS

By A. J. Caffrey, M.D., Instructor in Physiology at Milwaukee Medical College from 1901 to 1910. Assistant Professor of Medicine at Marquette University School of Medicine from 1913 to 1920. Boston Richard Badger. The Gorlain Press.

The writing of this book is based on errors of observation in medical practice and the failure to observe certain apparent minor facts which if observed, would point to certain controlling factors of essential importance in avoiding pitfalls which come not only to doctors but to others as well. In arriving at a diagnosis, certain standard symptoms are observed, a physical examination is made and laboratory tests employed, all of which are coordinated in arriving at a diagnosis. Notwithstanding ordinary care, errors are made in evaluating the evidence presented. The close observer of certain facts will not infrequently place an interpretation quite different from the logical consideration of the clinical group of evidence. The man of quick perceptions will see something that will give a turn to the evidence not perceived by the routine observer which will save him from the pitfalls daily witnessed. In acute diseases, doctors are frequently giving patients or friends opinions which in a few days are found not to be true to the indignation of interested persons and humiliation to the doctor.

The book is written in a series of stories. There are thirty chapters, each one is a story in which Dr. X is the observer. We have all been witnesses at one time or another of similar instances. Dr. X is a good story teller, fortunately for us it relates to the other fellow.

Dr. X one day tells his friend that he had been discharged from a patient he had been called to that morning, but would be called back in four days. He saw a little girl five years old who was ailing slightly, had a little fever and a little less inclined to play, but otherwise well. The doctor examined that throat and found some spots called Koplic's spots, significant of measles; advised that the child be put in bed and kept quiet and given some simple medicines. This did not quite suit the parents and they called another doctor who found nothing and advised the parents to let the child up and play out of doors. On the fourth day the measles were out; then Dr. X was called back, the second doctor discharged and the parents indignant; the child came near dying from pneumonia and the disease generally spread. Here was the pitfall for the second doctor; it might have been the pitfall for Dr. X, but Dr. X was a shrewd observer and escaped, and presumably gained great credit.

The thirty stories relate to an equal variety of experiences of interest to those who have escaped the pitfalls, and of equal importance to those who have fallen. The purpose of the writer of these

pleasant or unpleasant stories is to impress upon the minds of us all the constant danger that surround us and how easy it is to gain or lose credit by constant watchfulness or lack of watchfulness. No one entirely escapes, but some physicians are always falling into the pit and we know their fate. Some will read this book and greatly profit by it.

## INFANT FEEDING

By Clifford G. Grulee, M.D., L.L.D., Associate Professor and Acting Head Department of Pediatrics at Rush Medical College. Fourth Edition. Thoroughly Revised, Octavo of 397 Pages. Illustrated. W. B. Saunders Company, 1922. Cloth \$4.50 Net.

Dr. Grulee who has gained the position of an authority on infant feeding, brings his contribution to date by offering a fourth edition of his work. This is not a new book to the profession and we need not do more than to announce the appearance of a new edition. During the past few years, there has been a definite advance in pediatrics in America and a decline in Europe, as might be expected from the unsettled conditions in Europe. Nevertheless problems and experiences have arisen which may be utilized in the future when affairs are better adjusted.

## SURGICAL CLINICS OF NORTH AMERICA

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The Philadelphia Clinics are of unusual interest as may readily be seen by referring to the men who have contributed. Dr. John B. Deaver considers several subjects, Duodenal Ulcer, Pylorectomy, Posterior Gastrojejunostomy, with remarks on pathology by Dr. Stanley P. Reimann. Followed by a clinic on Adeno Carcinoma of the Breast, another, Recurrent Cholecystitis, Operative Cholecystectomy, also Renal Calculus. Dr. J. Chalmers Da Costa and Dr. Astley P. C. Ashhurst present a series of cases. Dr. Charles H. Frazier presents a contribution on Brain Tumor in Relation to the Cerebrospinal Fluid and Ventricles. Dr. Brooke M. Anspack presents several clinical cases of special interest. Dr. George P. Muller considers a number of important cases among which may be noted a Case of Tuberculous Cervical Adenitis. Other contributors are Dr. Warren B. Davis, who presents an interesting clinic, Harelip and Cleft Palate, and Dr. P. G. Skillern, Jr., on Surgical Lesions of the Ulnar Nerve at the Elbow, which should receive special consideration because of its importance in relation to deformities and disabilities. This Philadelphia number is of rare interest and value to the general surgeon. We have not been able to point out the details of the cases presented, only to mention the general features of the work.



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## THE PROS AND CONS OF FOREIGN PROTEIN INJECTIONS IN AFFECTIONS OF THE EYE\*

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A close observer, writing some three thousand odd years ago, noted that there was no new thing under the sun, and this apparently applies to parasppecific therapy, for while I supposed that this was a comparatively recent addition to our therapeutic armament, Peterson (Biological Therapy p. 82), says "As a matter of fact, this form of therapy, call it as we will, non-specific therapy, protein therapy, etc., forms in all probability the basis of the very earliest and most primitive methods in practice that we encounter historically." No doubt the stories heard in our pre-medical days of remarkable cures of rheumatism following an unusually interesting encounter with a swarm of angry bees; and how after recovery from a severe attack of typhoid fever the patient often felt better than he had for years, were simply an unconscious tribute to this very system of therapy.

It is unnecessary to go into the history of the development of modern sero-therapy. Suffice to say that a careful consideration of the subject has been of sufficient importance to occupy the careful attention of our ablest research men and keenest clinicians. Vaughn (Protein Split Products, p. 373) made a careful investigation of the actions of protein when introduced parenterally and found that he was able, by varying the doses and frequency of administration, to produce fevers corresponding clinically to that of typhoid and many other types. The cleavage of foreign protein occurring in the process of parenteral digestion of necessity liberates heat. He suggested that the sequence found in the different forms of malaria were the result of the periodical discharge of foreign protein into the blood.

As a result of the brilliant results from the use of diphtheria antitoxin, an effort was made to provide a specific serological antagonist for each

of the clinical enemies of mankind. With the possible exception of the antitoxins of diphtheria and tetanus, most of these resulted in failure, but it was noted that for some reason, certain conditions improved on the injection of a serum not prepared especially for the condition in question. For example, it was found that severe cases of sympathetic ophthalmia were benefited by heroic doses of diphtheria antitoxin, and that inflammatory conditions obviously non-tubercular were apparently relieved by injections of tuberculin. According to Miller (Biological Therapy, p. 69) foreign protein therapy has been used in practically all the infections with reported beneficial results in many cases. The various forms of arthritis and typhoid have received the greatest degree of attention. He quotes reports from various observers as to their results in typhoid, typhus, sepsis, pneumonia and various ocular lesions to be mentioned later. Some of the reports were exceedingly striking, and while many of the favorable results may be attributed to the over enthusiasm of the observers, nevertheless, in spite of a number of the reports being rather fragmentary and lacking in controls, he is of the opinion that in some cases at least, the curative value of this method of treatment was definitely established.

Most authors advise the intra-muscular or at least the sub-cutaneous route of administration of foreign proteins, but in an unsigned editorial in Medical Record, N. Y., February, 1919, p. 200, the author of the editorial not only gives the serum for various ocular inflammations in this way, but also advocates its administration by mouth. He gives 10 c.c. (2500 units) in twenty-four hours as a potion. He has observed very prompt relief of pain and irritation and adds that it greatly aids atropine in breaking down stubborn synechia. He also found it to be of rather special value in infections following operative procedures.

Ben Witt Key (Arch. Ophth., November, 1919, p. 581) in concluding a very comprehensive paper on anti-diphtheritic serum in ocular infections, is convinced that favorable results with

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para-specific therapy are by far in the majority. He prefers the serum over other preparations, as being more exact in dosage and its clinical action better understood.

There has been considerable discussion as to just how this form of treatment produces results. Of course, in the specific antitoxins, as for example, diphtheria, the action is probably direct, while the benefit resulting from injections of the same substance in a severe case of pneumonia or other sepsis is not so clear. Peterson (quoted above), mentions the theories of Vichardt, Starckenstein, Uithlen and others. Vichardt, in particular, regards the therapeutic effect in the nature of plasma activation. This idea emphasizes the fact that with the injections, the organism is stimulated and that the "resulting reaction may be a summation of all the forces of resistance with which it is equipped." Leucocytes are increased in number and activity, enzymes are mobilized and the glands of internal secretion stimulated. He further points out, as has been emphasized by other observers, that when once the organism is fatigued beyond the point of reaction, repeated injections are of little value. Fradkin (*Clin. Ophthal.*, August, 1921, *Abst. Brit. Jour. Ophth.*, March, 1922, p. 135), speaking of injections of milk, "thinks its action is explained solely by the fact that one introduces into the serum of the organism a rich quantity of alexines which destroy the microbes, already sensitized by their specific fixation agent. Hence the remarkable indifference to the kind of microbe which is exhibited. It is not, in fact, a question of specific medicament for a given race of microbes, but of an aspecific substance, alexine, which is wonderfully active on any kind of bacterial element. Possibly the special advantage of milk lies precisely in its great richness in alexines. Speaking generally, I think we can safely say that the value of non-specific administration lies in its ability to raise the body resistance to its greatest efficiency and it is only when this follows that favorable results are obtained."

We must of course bear in mind in using agents of this kind, that they are not entirely harmless, and that serious reactions may be produced. This, however, may be said of almost any therapeutic agent at our command and we must proceed with caution until the tolerance of the patient is determined.

As stated before; although parenteral specific therapy has been applied to almost all phases of inflammatory conditions, it has been given rather special attention by the oculist, possibly because in some forms of ocular inflammation we are

willing to try almost anything that will offer a promise of help. In addition, we are able to observe the progress of improvement or lack of it more or less accurately from day to day.

During the last four or five years, numerous articles have appeared in ophthalmological journals dealing particularly with injections of sterilized milk. Some of these reports have been exceedingly optimistic while others have been quite the reverse. Priority in the use of this particular agent seems to be pretty generally given to Muller & Thanner who published their first reports in 1916, but Jocqs (*Clin. Ophthal.*, May, 1921), reminds us that it had been used in general medicine by the French investigators as early as 1903, but evidently it was not generally adopted.

If we could expect to equal the results reported by some of the more enthusiastic followers of this method of treatment, our troubles in the care of inflammatory diseases of the eye would be over. For example, Bufil of Barcelona (*Arch. di Oftal. Hispano. Am. Barcelona*, Aug., 1921, S. M. S. S., November, 1921, p. 56) reports seven cures, five of them severe corneal infections, one of orbital cellulitis and one of dacryocystitis. One of the corneal cases was complicated with trachoma and distichiasis. He is sure that injections of milk are superior to all other agents in treating ocular inflammations. On the other hand, Haller (*Zeit. f. Augenheil*, xlv, p. 145) (*Abst. Arch. of Ophth.*, March, 1922) warns against the use of milk as an inexact and dangerous procedure. Between these extremes we find reports from men whose experiences cover hundreds of cases and who are apparently fair in their judgment.

Felix Jendralski (*Zeit. f. Aug.* No. 1, Berlin, 1921) used a milk preparation put out by the Saxon Serum Works of Dresden under the trade name of "Ophthalmosan." His report covers 129 cases, a few of which were treated with boiled milk. Fifty-nine of his cases were eczematous conjunctivitis, of which twenty-six were cured, with no result in thirty-three. He states that other forms of treatment were used in connection with the injections. Three cases of gonorrheal conjunctivitis were improved and four not affected. Four cases of serpent ulcer were not affected, but four cases of corneal ulcer of other types were arrested and cured. Two cases of dendritic keratitis and nine cases of toxic iritis responded promptly to the treatment, while tubercular and luetic inflammations were not affected. These reports seem to be below the average and it seems to be the general opinion that while the dosage of ophthalmosan, dutoalbuminosis, etc., may be more exact and possibly less liable to pro-



duce anaphylactic disturbance, the results are not so prompt nor effective as when the boiled milk is used.

Cassumatia (Clin. Ophth., July, 1921) in reporting 134 cases treated by milk injections, mentions seven out of ten cases of hypopion keratitis decidedly improved, the others not helped. Pain and swelling rapidly subsided in fifteen cases of purulent ophthalmia and healing of corneal complications was materially assisted. Twenty-five cases of trachoma were not affected, but six cases of non-specific iritis were cured. He warns his readers that the injection of milk is not a panacea, but he is sure it has a definite field of helpfulness.

It would be burdensome to present even a condensed report of the numerous writers on this subject, but I will give a brief summary of the experiences of some twenty of our leading investigators with special reference to the more common ocular conditions treated. To my surprise, the treatment of gonorrheal conjunctivitis heads the list. Four report very favorable results, one negative and one three cures and four failures in seven cases treated. Iritis and iridocyclitis were favorably reported in every case, although one failure was reported in a case of chronic choroiditis. Of the corneal infections of various forms, of nine reporting, all noted improvement except one. The simple ulcers seemed to respond more favorably than the very violent serpiginous type; one case of dendritic keratitis responded rather promptly. One case of hyalitis deserves special mention as the vision was improved from less than 20/200 to nearly normal by nine injections of milk at intervals of three days, leaving the media practically as clear as the other. Opinions vary as to the value of this treatment in phlyctenular keratoconjunctivitis, about half the cases showing marked improvement and the others not helped. Luetic, tubercular and trachomatous conditions were practically unaffected, although pain when present was usually promptly relieved. Four of them reported especially on the prompt relief of pain and irritation and one emphasized the promptness with which swelling and chemosis were relieved. Six called attention to the value of this procedure as a pre-operative and post-traumatic prophylactic and single cases were given of marked improvement in orbital cellulitis, dacryocystitis, and intraocular hemorrhages. Two spoke of the rather prompt relief of synechia which had previously resisted the thorough use of atropine. Practically all administered the treatment intra-muscularly, although two injected it beneath the conjunctiva, one in combination with dionin instillations. Apparently the sub-

conjunctival injections were not as effective as those given intra-muscularly.

Darier (Clin. Ophth., November, 1921) who has perhaps had as much experience along the line of para-specific therapy as any of our oculists, thinks that in spite of some negative results, milk injections have given great satisfaction in all fields of therapy and thinks it of especial value in the treatment of ocular inflammations. He is opposed to intravenous administration, considering it unnecessarily dangerous.

While in attendance at the International Congress of Ophthalmology, in Washington, I took occasion to speak to a number of the visiting oculists as to their experience with this line of treatment. Mr. Collins of London had not had any personal experience with its use nor had Dr. Magitote of Paris, although he had been carrying on some experiments with other substances but as yet has not come to any conclusion. Dr. Gallemaert of Brussels has used it with considerable satisfaction, especially in acute inflammatory cases, but he thinks it is of certain value in other conditions as well. Dr. Nordensen of Stockholm has seen favorable results from its use and was carrying on some experiments with special reference to vernal catarrh, but as yet had not come to any positive conclusions. Dr. Parker of Detroit has seen some very favorable results from the use of para-specific therapy but uses tuberculin and diphtheria antitoxin in preference to milk, owing to the ease with which it can be procured and administered, but is of the opinion that the milk would probably be equally beneficial.

Our personal experience with para-specific therapy extends over the last five or six years, at first limited to injections of diphtheria antitoxin and tuberculin in very severe cases of uveitis, and occasionally used anti-pneumococcus serum in cases of serpent ulcer. The results in these cases were very indefinite and as they were used only in most unpromising conditions and often as a last resort, I could not say that we could definitely report any favorable results from their use.

Within the last six months, we have used intra-muscular injections of sterilized milk in nineteen cases, in some of which we could see no apparent benefit, while in others it seemed as though some improvement could be traced to the injections. Of these cases, two had choroiditis, two inflammatory glaucoma, four iritis and cyclitis, one traumatic cataract, three neuritis, six corneal ulcer, one panophthalmitis and one penetrating wound. We used whole milk boiled for four minutes and the injections were from one to ten

cubic centimeters and were usually repeated in from twenty-four to forty-eight hours. It has been our experience in common with other observers, that unless the patient shows improvement on the first two or three injections, there is no benefit to be gained in pushing them further. Furthermore, in no case did we limit our therapy to the milk injections alone, so it would be impossible to determine whether the improvement was due to the milk or to other lines of therapeutic attack. However, in a number of cases, the improvement was so prompt following the milk injections that we felt that there must be a definite connection. One very discouraging case of old choroiditis with partial retinal separation really made some improvement on repeated injections of two c.c. of milk. Of course this may have been due to other lines of therapy which were employed but the improvement seemed to be coincident with the use of milk. One case of iridocyclitis with severe pain and a rapidly advancing plastic exudate which looked like beginning panophthalmitis was relieved in a few hours of pain and irritation by one injection. The injection was repeated in forty-eight hours. Improvement was uninterrupted, the pupillary space being practically clear in three days. This again may have been a coincidence as he told us he had had similar attacks which had been equally severe but which had cleared up on ordinary treatment, but as he had been rapidly getting worse up to the injection of the milk, I am convinced that it had a very beneficial influence. One case of serpent ulcer was a complete failure. In spite of the use of every therapeutic measure at our command, including optochin, thermophore, sub-conjunctival injections of cyanide of mercury, delimiting keratotomy, and repeated injections of milk, the cornea melted out in about forty-eight hours, but this was in an elderly man of very low resistance very susceptible to pain and it is a question in a case of this kind, as has been pointed out by others, whether the use of foreign protein may not be harmful rather than otherwise. It has been our experience that serpent ulcers which do badly are almost invariably in patients of this type, which leads one to suspect that the unfavorable outcome is in all probability due more to lowered resistance than to any unusually virulent type of infection. Five cases of superficial corneal ulcer, one in a child of one and a half years, improved on regular lines of treatment plus injections of milk. In one case we felt the improvement could be definitely attributed to the milk. In the others, it was of course doubtful. Pain was decidedly relieved in three cases of inflam-

matory glaucoma, two of them post-traumatic, while three cases of optic neuritis improved on milk plus other measures. We have only used it once as a prophylactic following a severe penetrating wound with uveal prolapse. The case progressed very favorably, which might have been the case either with or without the injection. Two cases of iritis and one of severe cyclitis following a penetrating wound were improved so far as pain was concerned, and as they were severe cases and eventually turned out favorably, I am inclined to think the milk had a real curative value.

Of our cases, three may be said to be complete failures so far as injections of milk are concerned, but as one of them was a case of rapidly progressive panophthalmitis, nothing could be expected. The second was a slowly progressive hyalitis which, contrary to the experience of one of the observers mentioned above, went from bad to worse in spite of all we could do, and the third, the case of serpent ulcer mentioned above. Seven cases of improvement could apparently be traced rather definitely to the injections of milk, while the improvement in the remaining six may have been due equally or entirely to the other lines of therapy. Our injections varied from one to ten c.c. in amount, averaging about 5 c.c., the largest number given in any case being five. Our experience corresponds to that of others who have found that unless improvement is noted after two injections, it is useless to continue. It was at first thought that unless there was a decided febrile reaction, there would be no therapeutic result. Recently there seems to be a decided change of opinion as to this and it is certainly not true in our experience, the cases which showed a decided rise in temperature doing no better than those that did not.

In conclusion, I think we may fairly assume both from the standpoint of the general practitioner and the specialist that the employment of para-specific therapy is a real addition to our armament. Neither in our experience nor in the reports that I have read have I seen any harmful results from the milk injections, but like any other therapeutic procedure, it must be used with judgment after a careful study of the individual reaction of the patient. We must not be over-influenced by the too enthusiastic reports of certain observers nor unduly cast down when our results fail to come up to their standards. Neither do I feel that we are justified in disregarding old and tested methods in a given case, but where para-specific therapy can be employed in connection with our regular procedure, it is certainly our duty to give the patient the advantage of its use



and even though the effects may be transitory or even limited to the reduction of discomfort, it is well worth the effort.

## THE OCCULT DISEASE OF CHILDHOOD\*

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We will begin to-day's lecture with case histories which will illustrate the features of the disease without any intimation at first as to the diagnosis.

The patients whose histories are to be given were seen recently in the Medical Service of the Children's Hospital, Philadelphia, and all of them were suffering from the same disease. This will demonstrate very well the protean characteristics of the symptomatology and the reason why the correct diagnosis often is missed at first.

**Case I.** Male, five months old. On the day before admission he had had a slight convulsion and was feverish and restless. On the day of admission another convulsion occurred after which, the mother stated, the right arm and leg appeared to be weak. He vomited once and the bowels moved several times. Examination on admission showed slight stupor with rigidity of the neck but no definite evidence of hemiplegia. The spinal fluid was under slightly increased pressure but otherwise was normal, with four cells per cm. The leucocytic count was 19,600. The temperature ranged from 100° to 103½° F. on the first day and continued an irregular course, tending to a lower range, for two weeks. He left the hospital greatly improved, four weeks after admission.

**Case II.** Girl, three and one-half years old. Two days before admission she became feverish, drowsy and complained of pain in the stomach. There was no vomiting and the bowels were constipated. On admission, physical examination was negative. She ran an irregular temperature for the first five days, varying from 100° to 106¾° F. After ten days of normal temperature, there was a recrudescence for three days, reaching 102° F. The leucocytic count was 28,400. There were no noteworthy symptoms while she was in the hospital and she left on the 27th day, perfectly well.

**Case III.** Girl, eight years old. For several months she has been subject to attacks of abdominal pain, diarrhoea, vomiting and disturbed sleep. Apart from bad teeth, examination on admission was negative. The leucocytic count was 11,000. The temperature never exceeded 100¾° F. After an unevent-

ful course of two weeks she left the hospital greatly improved.

**Case IV.** Girl, six years old, who gave a history of frequent "colds" and enuresis. Two days before admission she suddenly developed fever, complained of general aching and was unable to stand on account of pain in the hips and feet. There was complete anorexia, with occasional vomiting, and constipation. The temperature was 103° F. on admission but fell to normal on the third day. The leucocytic count was 19,200. Physical examination was negative so far as a cause for fever was concerned. With the cessation of fever, all subjective symptoms disappeared and she was taken from the hospital in eight days greatly improved.

**Case V.** Boy, five and one-half years old. One week before admission he became feverish, complained of chilliness and pain in the right knee and ankle and, later, in the abdomen. Anorexia, occasional vomiting and thirst were the only other symptoms. Examination was negative as to a cause for the pain and fever, which ran an irregular course for eight days ranging between 98° to 99° and 101° to 103° F. After twenty-six days he left the hospital, practically well.

**Case VI.** Girl, ten months old. Two weeks before admission she began to vomit after meals, and later had diarrhoea. On admission the temperature was 99° F. and ranged between 97° and 99¾° with occasional rises to 100¾° or less. Physical examination was negative except for marked dehydration. Apathy, extreme anorexia, occasional vomiting and slight intestinal indigestion have been the only noteworthy symptoms. The blood-count showed 3,250,000 erythrocytes, 29,300 leucocytes and 57 per cent. hemoglobin (Sahli). In addition to iron citrate by hypodermic injection she has received one transfusion of blood. She is still in the hospital after seven weeks but probably will recover.

**Case VII.** Girl, seven years old. On the day of admission she became feverish and complained of left-sided abdominal pain and nausea. During the night she vomited several times and passed urine frequently. On admission the temperature was 104¾° F. and ranged between that and 100° F. for six days. The abdomen was tender, with slight rigidity on the left side. On the next day these signs had disappeared and she left the hospital in eighteen days greatly improved.

**Case VIII.** Girl, three years old. Four weeks before admission she had suddenly developed fever, vomited several times, sweat profusely and had a convulsion. Anorexia was complete and she complained of thirst, pain in the right lumbar region and severe dysuria. The convulsion was not repeated but the other symptoms persisted, in a modified form, until admission. Examination showed slight tenderness in the abdomen and in both lumbar regions, which gradually disappeared in four or five days. The temperature was normal except for several sudden rises to 101° to 104° lasting for two or three

\*Delivered before the Tri-State District Medical Association, Milwaukee, Wisconsin, November 15, 1921. From the Medical Service of the Children's Hospital, Philadelphia.

days. The leucocytic count was 10,200. After five weeks she left the hospital, improved but not cured.

#### Comment

It will be noted that fever was the only symptom which was common to all of these cases and that even the fever was a variable factor. Vomiting occurred in seven of the eight cases. In other respects the symptoms varied from those of a meningitis to those of a simple attack of "functional" diarrhoea. In every case physical examination failed to reveal the cause of the attack and in every instance the diagnosis depended solely upon the examination of the urine. This showed consistently an acid reaction, more or less albumin and a moderate or excessive number of leucocytes. Upon these findings, in the absence of other cause, was based the diagnosis of pyelitis. In only two of the eight cases had there been any symptomatic evidence of disturbance in the urinary tract.

During the past two decades pyelitis has come to be recognized as one of the usual diseases of childhood. Richard Smith estimates its incidence at about 1 per cent. of all children coming under treatment. In a recent survey of 734 febrile cases treated in the medical wards of the Children's Hospital, Philadelphia, 12 or 1.6 per cent. had pyelitis.

You will find no mention in the older pædiatric literature of the type of pyelitis illustrated by these cases. Even in the four volume "Encyclopedia of the Diseases of Children" published in 1890, the only condition considered is that of pyonephrosis which is described as hydronephrosis with pyelitis superadded, due primarily to mechanical obstruction to the outflow of urine. The most important cause, apart from congenital defects, seems to have been renal or cystic calculi. It appears therefor that only severe forms of pyelitis were recognized. From what is known of the etiology of pyelitis, there is no reason to believe that it was any less common then than at present. On the contrary it probably was more common, owing to the greater incidence in those days of diarrhoeal diseases. It seems probable that primary forms masqueraded under the guise of "difficulties in teething" or "gastric fever"—to use some of the favorite diagnoses of the past. These primary forms of pyelitis, as diagnosed today, certainly do not require any mechanical urinary obstruction for their causation.

In the same volume we find the statement by William Hunt that from 50 to 60 per cent. of cases of stone in the bladder occurred in children under sixteen years of age, while renal calculi, ac-

cording to Henry Morris, were found "very commonly" in the children of the poor up to the age of fifteen. The latter fact was ascribed, among other things, to absence of milk in the diet and to the use of indigestible articles of food. That both renal and vesicle calculi in children are much less common of late years will be attested by surgeons, while "pyonephrosis" is a rare disease. This suggests the possibility that the frequency of lithiasis in the past was dependent in part upon the frequency of pyelitis, which, unrecognized and not treated, furnished the infective nidus without which calculi do not form.

#### Etiology

We may consider pyelitis as occurring in two forms: (1) The so-called primary form in which we are chiefly interested and (2) the secondary form which occurs as a complication of other diseases. In both forms the exciting cause is bacterial, the *B. coli*, streptococcus, staphylococcus, pneumococcus, *B. lactis aerogenes*, etc.

There are three chief theories as to the manner in which the bacteria reach the kidney—(1) ascending infection through the ureter, (2) lymphogenous transmission directly from the bowel and (3) hematogenous infection. To these may be added transmission through the lymphatics of the pelvis or the periureteral lymphatics.

The chief argument in favor of ascending infection through the ureter is the preponderance of cases among girls, almost three to one, and the ease with which the urethral orifice in girls is contaminated with intestinal bacteria.

As Richard Smith points out, however, this contamination involves other structures than the urethra. He found positive cultures from the vagina in each of forty babies and young children, beginning from the sixth hour to the sixth day of life—the majority occurring as early as the eighteenth hour. The lymphatics which drain the vaginal and pelvic organs have a free anastomosis with those of the kidney, and both, of course, empty into the blood stream through the thoracic duct.

Under experimental conditions Helmholtz and others have been able to infect the pelvis of the kidney by injecting *B. coli* into the bladder. It was clear, however that the infection often reached the kidney by way of the periureteral lymphatics and absolute proof was lacking of the entrance of the bacteria into the pelvis solely through the lumen of the ureter. That infection by either route occurs under normal conditions when comparatively few bacteria gain access to the bladder in human beings seems most unlikely.



This is increased by the fact that in his experimental animals Helmholz always found acute inflammatory reaction in the wall of the bladder after the intracystic injections. If pyelitis in children is caused by organisms that gain entrance through the urethra they would be expected to set up first a cystitis, whereas cystitis usually is only a late complication of severe cases.

Helmholz's studies on the bacterial content of the urethra in girls showed that the *B. coli* is not a normal inhabitant over two years of age. Under that age he found the bacillus quite frequently, especially during the course of extra-urinary infections. He ascribed this to the greater difficulty in cleansing and disinfecting the urethral orifice in girl babies. It is also very difficult to insert the catheter cleanly into the orifice without touching the outer edge. By drawing the urine separately into a first and second portion, Helmholz was able to determine that the infection was present in the orifice and the urethra and not in the bladder.

Since Frank drew attention to the lymphatic connection which exists between the colon and the right kidney it seems quite possible for a pyelitis or renal infection to result from direct transmission from the bowel. Its relative importance cannot be stated but at least it fails to explain the discrepancy in sex incidence.

Hematogenous infection can occur in any organ of structure which is well supplied with blood. Pathogenic organisms may pass through an organ without setting up any recognizable disease, as occurs when typhoid bacilli pass through the kidneys. On the other hand, various organisms which are brought to the kidney by the blood stream may set up focal disease in the parenchyma or cortex or may pass through and cause infection below the secreting structures—primarily in the pelvis. For example, Helmholz injected the ear vein in a series of sixty-six rabbits with different strains of *B. coli*. In twenty-six of the rabbits, various focal lesions were produced, often multiple. In eleven cases the kidney was involved, chiefly in the form of focal abscesses, while in only two was the pelvis alone effected. Other lesions were produced twenty-six times in various organs, chiefly the gall-bladder and cæcum, as compared with eleven renal infections. When pneumococci were combined with *B. coli*, and seven rabbits injected, three showed pyelitis alone, one a cortical renal abscess and two had renal hemorrhage, while lesions of other organs occurred only four times. These results open up the complicated question of symbiosis but are interesting as proving that renal lesions can be pro-

duced by a purely hematogenous route. The fact that so many multiple lesions and extra-renal lesions resulted tends to throw some doubt upon hematogenous infection as the principal cause of human pyelitis although Rosenow has shown that certain bacteria apparently possess definite selective action in their localization. For example streptococci cultured from renal lesions tend to produce a higher percentage of renal infections in experimental animals than do those from other sources. In this light, the special type of the infecting organism may be the chief determining factor in the pathogenesis.

In all of Helmholz's cases of experimental pyelitis, the chief inflammatory reaction occurred in the papillæ, whereas the pyelitis which followed intracystic injection involved chiefly the parietal portions. Helmholz believes that, so far, this constitutes the only histological distinction between hematogenous and ascending infections.

The whole subject of the mode of infection is still sub judice. Whatever the final decision may be, in part it probably will involve the sexual anatomy since the preponderance of pyelitis among girls is too great to be explained on any other basis.

#### Pathology

In a recent paper before the American Pædiatric Society Helmholz emphasized the impossibility of determining, intra-vitam, the exact site of infection of the urinary tract. In simple uncomplicated cases of pyelitis such as we are illustrating, it has been believed that the lesions at first involved only the structures of the pelvis but in the pathological study of certain specimens from fatal cases of clinical pyelitis Helmholz was unable to find any histological change in the pelvis itself. This apparently lines up the whole question of pathology with that of the mode of infection, and throws stress upon the importance of bacteriologic studies in fatal cases.

The findings of so-called "pyelitis," such as pus cells and positive cultures, therefore indicate merely the presence of a urinary infection. Only with cystoscopic examination, urethral catheterization and x-ray studies can we hope for greater accuracy in determining the exact size of the disease. Fortunately, however, the average case can be diagnosed with reasonable accuracy by comparatively simple methods and we are justified in retaining the clinical designation "pyelitis," if we always bear in mind the possibility of the existence of the other lesions.

#### Symptomatology

The cases which have been detailed illustrate practically all of the important symptoms of sim-

ple pyelitis. Without examination of the urine accurate diagnosis is impossible. It should be emphasized, however, that whereas pyelitis may be primary without any antecedent disease, intestinal disorders very frequently preceded the attack. Adherents of the theory of direct infection from the bowel emphasize this but, as stated, it fails to explain the sex incidence. It seems rather to point to infection from vaginal or urethral contamination. Not rarely an apparent primary attack is but a recrudescence of a chronic infection. There is also reason to believe that reinfection occurs. None of the usual organisms involved confer any lasting immunity and the original avenues of infection certainly may be open.

The secondary form of pyelitis occurs occasionally in the course of one of the other infectious diseases such as typhoid fever or pneumonia. In any recrudescence or increase of fever in such diseases the urine should be reexamined.

According to the modern theory of hematogenous infections, we may conceive that diseased tonsils, teeth, sinuses or other localized abscesses can furnish the infective material and quite recently Bumpus and Meisser succeeded in producing renal lesions in 76 per cent. of eighty-two rabbits which had been injected with streptococci recovered from teeth, tonsils, urine and blood of seven adult patients suffering from pyelitis. Again this seems to point to a selective localization on the part of these streptococci. Since the infective focus in five of the seven patients was in the alveolar processes, the applicability of the results to children is open to question, and the increasing number of instances where the tonsils have been enucleated will enable us soon to judge of the importance of the tonsils. Compared with intestinal disturbance and its consequent local contamination, hematogenous infection from such sources, however, must play an unimportant role, and again, it fails to explain the preponderance of cases among girls.

#### Diagnosis

The diagnosis of pyelitis in a child can be made tentatively in less time than is required to describe it. A drop of urine on a slide without a cover glass is examined with the high power "D" objective. If the number of leucocytes exceeds ten per field there is great probability of pyelitis being present. Other specimens must be examined before a final diagnosis is made. In true pyelitis the number of leucocytes will increase.

Certain precautions must be taken—(1) the urine must have been passed within two or three hours unless it has been kept at a low tempera-

ture—45° or less. In any event, not more than ten to twelve hours should have elapsed. (2) The urinary meatus in both sexes, and the vaginal orifice in girls, must be free from any signs of inflammation or discharge. (3) The urine must be thoroughly mixed before putting the drop on the slide. For this reason it is better to use uncentrifugated or unsedimented urine.

Under conditions one or two the urine will almost invariably be acid, if no alkali has been given to the child, and usually contains at least a trace of albumin. Small epithelial cells may or may not be abundant. Occasionally we find a few casts but their constant presence or a large number indicates that we may be dealing with an infection of the kidney itself. An alkaline urine, freshly passed, containing triple phosphates and large epithelial cells suggests a pyelocystitis, since cystitis alone is rare, apart from local causes such as traumatism, vesical growth, etc.

If there is any doubt as to the presence of local irritation which might vitiate the leucocytic count and if, at the same time, the diagnosis is not clear, the child should be catheterized with the precautions to be detailed later, and a bacteriological study should be made. If, on the other hand, the number of leucocytes is below ten per field, the count should be repeated daily for several days, as a single specimen may, for various reasons, give inconclusive results.

If the count continues to be suspicious, from five to ten cells, and the diagnosis still be in doubt, the child should be catheterized for a bacteriological study of the urine.

In a true case of pyelitis the early samples of urine may show comparatively few cells in a relatively clear urine, but in a short time the cells show a marked increase and the urine will become more or less cloudy. Sooner or later, cultures will prove to be positive but in general practice a culture usually is not necessary for diagnosis and successful treatment. In doubtful cases cultures are essential.

At the Children's Hospital we secure a sample of urine from little girls as follows:\* Through a piece of adhesive plaster approximately three inches square two median slits are made at right angles just large enough to admit the flange of an ordinary two or three ounce glass bottle, passing the latter through from the "back" of the plaster to the "adhesive" side. Each corner of the plaster is slit up one and one-half to two inches to provide for a tight apposition. The plaster can be made to fit the bottle tightly by wrapping an ex-

\*This method is not original but we regret that we are unable to recall the name of the originator.



tra piece around the neck and is then applied over the vulva so that the mouth of the bottle lies just at the urinary meatus. By carefully fitting the lower end of the plaster in front of the anus it is possible to avoid fecal contamination even in the presence of diarrhœa. The bottle can be held loosely in place by the diaper. The only contraindication to the method is dermatitis or severe irritation of the vulvæ and perineum.

#### Catheterization

Two objections are inherent to catheterization in these cases, one of introducing new or mixed infection and the other of obtaining positive cultures from accidental contamination and thus causing error in diagnosis. It is often stated that the introduction of a few bacteria on the catheter is never followed by infection. Although there is much evidence in favor of this contention, in view of the undoubted presence of various pathogenic bacteria from the intestine and the lowered resistance of the child, it certainly seems more rational to take every precaution against infection.

Many types of technique have been employed but none is altogether satisfactory. The important points are to keep the labia separated and to attempt to cleanse only the vestibule and urethral orifice without touching anything else. For cleansing, tincture of green soap and distilled water followed by bichloride of mercury solution (1 to 1000) and distilled water, may be used, or a 2 per cent. solution of lysol may be followed by distilled water. The solutions and water may be applied by douching freely, using a medicine dropper or small syringe. Great care must be taken to insert the catheter cleanly without contact with any other part or object. The urine should be collected in two portions and only the last used for culture. Before withdrawing the catheter the bladder should be washed out with 5 per cent. boracic solution.

The acute case of pyelitis under appropriate treatment usually makes a prompt symptomatic recovery but eradication of the infection often is extremely difficult. When fever and constitutional symptoms persist beyond three or four weeks, in spite of treatment, there is probability that the renal structure is involved. Fatalities are due usually to severe anæmia and parenchymatous degeneration of various organs due to prolonged sepsis, to pyæmia with secondary abscesses, pneumonia, etc., or to "surgical kidney." Very rarely does the disease prove to be tuberculous or malignant.

There is a large percentage of cases that, in spite of treatment, continues to show pus cells in

the urine. In some of these the anæmia, anorexia, lack of energy and slight or occasional fever suggest a variety of causes and such cases are often incorrectly diagnosed. In others there may be little apparent effect upon the child's health. How many of both of these types finally recover and how many drift into more severe and fatal forms of urinary disease or die of anæmia, sepsis and exhaustion, is problematical. Some authorities believe that some of the cases of pyelitis or pyelonephritis of adult life had their inception in these attacks of childhood.

#### Treatment

Apart from the removal of possible foci of infection the greatest importance in the treatment of pyelitis attaches to securing free drainage by supplying large amounts of water. When this is refused or vomited, it may be given by the nasal rather than by the stomach tube, as the former is less apt to cause gagging. From 500 to 750 c.c. (16 to 24 ounces) of water should be given to infants daily in addition to other liquids, with large amounts to older children. By determining the specific gravity of the urine we can make an estimate of the degree of urinary "dilution."

When vomiting is persistent, water should be given by the intraperitoneal method. Case VI in this series has received forty intraperitoneal injections, without which, it is fair to say, recovery would have been impossible.

The next measure in importance is to secure complete alkalization of the urine. Citrate of soda is better borne by the stomach than bicarbonate of soda and both can be given safely in larger doses than can the salts of potash. All of these may be used but enough must be given to keep the urine constantly alkaline. In infancy, four grams (sixty grains) of sodium citrate a day may be the "basic dose," with one to two grams (fifteen to thirty grains) of the bicarbonate or potash salt if needed. The largest single dose should be given at night to carry over the period when acidity is highest and intake lowest.

Usually there will be definite improvement in the fever and toxic symptoms after four or five days of the alkaline treatment. Just how it acts is unknown. While improvement lasts, the alkali can be continued, so long as there are no signs of over alkalization such as a positive reaction to thymolphthalein (.5 in 100 c.c. alcohol). If no improvement occurs in five days, we may try hexamethylenamin. This must be given in large dose, at least one gram (fifteen grains) in twenty-four hours for infants of five or six months. Since this drug will not be liberated in alkaline

urine, all alkali by mouth must be stopped. Acid sodium phosphate or dilute hydrochloric acid may be used to render the urine acid.

With a free supply of water there seems to be little danger of hematuria but the treatment should not be continued steadily for more than six or seven days and may be followed by another course of alkali. This alternation may be continued at weekly intervals and often will be completely successful. When the pyuria persists we may try an autogenous vaccine, although too much should not be expected from it. Recently, the injections of silver salts into the pelvis by urethral catheter have given excellent results. For example, Kretschmer and Helmholtz report complete cures in nine of eleven cases ranging in age from seven months to ten and one-half years, using a .5 per cent. solution of nitrate of silver.

In all severe chronic cases the secondary anæmia indicates the use of iron. Probably the best results are obtained by hypodermic injections of iron citrate. Arsenic should not be used. In the worst types blood transfusions are indicated.

The selection of a suitable diet is of definite value. During the stage of alkalization, the free use of green vegetables and orange juice aids in reducing acidity of the urine and stimulates diuresis. The vegetables may be fed to babies in the form of purees or as vegetable soup. Many green vegetables have the additional advantage of being natural hematinics. The only contraindication to their use is intestinal indigestion or vomiting. If there is difficulty in securing an acid reaction for treatment with hexamethylenamin, vegetables may be stopped and lactic-acid milk, made palatable with sugar or saccharin, may be used as the chief food.

In the mild types, when all treatment fails to clear the urine, a trial should be made of the "fresh air cure." For all the severe types and for the most stubborn mild types expert urological advice should be sought. The importance of persistence in treatment lies in the potentialities for serious or fatal disease which exist when there is definite infection of the urinary tract.

#### Prevention

In the absence of definite knowledge as to the exact modes of infection, prevention must be somewhat empirical. Cleanliness probably is of greatest importance. During attacks of diarrhœa particular care should be taken to cleanse the vulvæ as promptly as possible after soiling has occurred. For this purpose the child should lie on one side, instead of on the back, and all pressure should be made from before backward. After the

gross cleansing, sponging may be done with one per cent. lysol solution on a sterile cotton pledget. The free use of water internally in such cases and in the infectious diseases has other advantages than those usually ascribed to it, since polyuria probably means a lessened chance for urinary infection.

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### PSYCHIATRIC ANALYSIS OF THE CHILDREN IN THE STATE JUVENILE HOME

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In the early part of the summer of 1921 Superintendent Kepford of the State Juvenile Home brought to the Psychopathic Hospital for observation a girl who had shown in her behavior rather marked departures from normal. At this time he told us of the nature of his work and that he had at the home a number of children who showed rather striking deviations from the normal. As a result of this conversation a psychiatric survey of all the children in the home was undertaken. The first trip to Toledo was made in September. Dr. Morgan made a second trip in November and the third trip was made in the early part of February. While time limitations made it impossible to study many of the children as thoroughly as we should like, we felt that on the whole a fairly adequate survey was made of the total of 141 children, varying in age from four to seventeen.

The method employed may be of some interest. We were searching primarily for the feeble-minded children. On the first visit practically all children in the home ten years of age or over, a total of sixty-eight, were given a group test, using Dr. Morgan's group test for which the norms have been carefully worked out; a relatively simple scheme whereby the individuals taking the test work for forty minutes, going as far as they can in the time given. Those who made scores of twenty-one or less on the Morgan test and those who made exceedingly high scores were then given the Binet test. At various times, Dr. Morgan gave individual tests to a total of 122 children. Dr. Lowrey examined the children with low ratings and those reported by the superintendent or by the teachers to be difficult problems in any way. He was searching more for manifestations of emotional and volitional disorders, for neurological signs of organic brain disease, for indications of congenital syphilis, and



the various so-called stigmata of degeneration. He also endeavored to check by brief mental examination the findings of the psychometric tests, seeing a total of sixty-three of the 141 children. Enuresis, fainting spells, nervousness, somnambulism, running away, fits of temper, and visions were inquired into; in the older girls the menstrual history was gotten, and in the older girls and boys one or two careful questions were asked to ascertain whether or not they had knowledge of sex matters. If it was found that they did have such knowledge, then one or two careful questions were asked to determine whether or not there had been illicit sexual experiences or masturbation. While there was in general no way to ascertain whether or not the children were truthful about such matters without pursuing the inquiry to a point which seemed unwise, in general their stories agreed with the facts which the superintendent was able to give us. With the younger children no attempt was made to approach this topic unless they indicated by their statements that there was positive knowledge or experience to be looked into. Although it must be admitted that such a sketchy analysis of the sex problems of these children will fail to reveal many facts having a bearing on their behavior, it seemed to us desirable to err on the conservative side in approaching these problems with this population of presumably normal children.

We then turned to the records which accompanied the children to ascertain such facts as the age and date of birth and such material as there might be concerning the family history. In general the records as to the family history were very scanty. We did not get, therefore, the information that seems desirable to complete an investigation according to the ten field scheme laid down by Fernald. In many cases the birth records are uncertain, but sometimes they can be fixed by the statements of the children. Nevertheless we are left with eight cases in which the age is sufficiently in doubt to lead us to list them as uncertain. It will be seen that we have the following positive information to deal with:

1. Psychometric examination of the child.
2. Report of the officers of the home concerning the school work and the conduct of the child.
3. In a considerable number of cases a brief physical, neurological and mental examination.
4. In a few cases the family history.

With these data we have been able to pick out the following groups:

1. The definitely feeble-minded.
2. The border line retarded cases, which may

or may not turn out to be feeble-minded—for re-examination at the end of a year.

3. Certain psychopathic personalities of considerable interest.

4. Certain cases of glandular disorders, chiefly hyperthyroidism.

5. Some suspected cases of congenital syphilis (in this connection it seems highly desirable to have Wassermann tests made on all children admitted).

6. Normal children.

The age distribution of these children is as follows:

4- 5.....	1
5- 6.....	3
6- 7.....	6
7- 8.....	6
8- 9.....	15
9-10.....	11
10-11.....	14
11-12.....	22
12-13.....	9
13-14.....	22
14-15.....	14
15-16.....	7
16-17.....	2
17-18.....	1
Uncertain.....	8
	<hr/>
	141

There are thirty-three family groups in the institution; that is, where more than one child of a family is present. There are twenty-one families with two children, five with three, and seven with four, so that 85 of the 141 children belong to these thirty-three families. There were sixty-four girls and seventy-seven boys. On the whole we may regard this as a fairly average sample of "neglected and dependent children" sent to the State Juvenile Home.

All the facts of observation which can be so tabulated are given in Table I. The following discussion, with the exception of Dr. Lowrey's observations, may be verified by reference to that table.

#### RESULTS OF THE MORGAN TEST

The sixty-eight children who took the group test fall into the following age groups: Nine years, 5; ten years, 5; eleven years, 15; twelve years, 8; thirteen years, 16; fourteen years, 11; fifteen years, 4; sixteen years, 3; seventeen years, 1. The highest score, 99 (of a possible total of 190 points) was made by a twelve year old girl. Only one other score over 90 was made, a seventeen year old girl scoring 95. Two scored from 80 to 90; three from 70 to 80; five from 60 to 70;

ten from 50 to 60; twelve from 40 to 50; nine from 22 to 39 inclusive; twenty-five from 0 to 21.

The scores arranged by ages were as follows:

Age	Score	Age	Score
9	1	13	0
	2		1
	6		8
	10		10
	47		29
			40
			42
			48
10	3		51
	16		52
	27		53
	28		55
	35		57
			67
			72
			82
11	0		
	1	14	1
	1		3
	1		11
	9		13
	10		21
	20		40
	24		49
	24		55
	29		60
Twin	32		73
Twin	40		82
	40		
	48	15	54
	56		69
			69
			71
12	39	16	45
	44		54
	47		57
	64		
	99	17	95

In general, the feeble-minded children made very low scores on this test. The score of 47 made by a nine year old girl (having an I. Q. of 1.03) was exceeded by only two feeble-minded children, one a girl of fifteen, scoring 69; the other, a girl of sixteen, scoring 54. No other feeble-minded child scored over 24 on the test. Some normal and psychopathic children scored lower than 24, but in each case this was found to be due to lack of education (the test requires ability to read, write and do simple arithmetic, being especially intended for adults and older children). The test, therefore, allowed us very quickly to select the children for individual examination.

## GENERAL FINDINGS

We can most profitably first discuss the families.

Family 1. A girl of twelve years nine months scoring 47 on the Morgan test and a boy of eleven, with Binet age of seven years nine months. The boy is certainly feeble-minded and the girl probably normal, though they were removed from the home before our study was completed. No family history available.

Family 3. All of these three boys are feeble-minded. Father described as lazy, improvident roamer; very slow in activities. Mother slovenly, indecent, filthy, uses tobacco and snuff to excess; has severe eye trouble. The family lived in a one-room "shack on wheels" which was moved from place to place. The children had no schooling; no training in personal cleanliness; lewd practices and conversation were their constant portion. One older brother was sent to Glenwood and one or two smaller children left at home when these boys were sent to Toledo. They were fairly well behaved, but did not do very well in school work. They have now been sent to Glenwood.

Family 4. These four children are quite intelligent, child A having the second highest I. Q. of any child in the home. Child C, with an I. Q. of .85, and a mark of D in kindergarten work, seems to be the least intelligent and one on whom another test is indicated. No family history is available.

Family 7. These two boys are both feeble-minded. No family history is available. The oldest, having an I. Q. of .45, speaks very indistinctly; has an irregular pupil on the left; both pupils react, though slowly, to light. The teeth appear normal, the palate is high. Knee jerks diminished. He says his father deserted the family. There are several suggestions of congenital neuro-syphilis. The younger boy has an I. Q. of .71, indistinct speech; normal pupils and reflexes; high palate. His mental age is already above that of the brother, although he is two and one-half years younger, so that, although feeble-minded, he is less so than is the older child.

Family 9. The older boy has an I. Q. of .69, and is certainly feeble-minded. Nearly eleven, he is doing well in second grade work. He has a high palate, no other stigmata, no abnormalities in the neurological examination. The younger brother, with an I. Q. of .80, is one and one-half years retarded; doing well in the first grade (eight years old). The neurological findings are normal. He is probably not feeble-minded, though another examination next year will be necessary to determine this. Of course, the fact that one child in a family is feeble-minded and no adventitious disease is present to account for it, makes us suspect that other children in the same family are also feeble-minded, especially if they show some retardation. To properly discuss this point, however, would lead us too far afield. It recurs continually in these family groups, and will not be further discussed.



Family 11. The older boy seems normal in every way. The younger has an I. Q. of .87, no neurological abnormalities; high arched palate; is doing well in school, and is probably also normal.

Family 14. The older girl shows an I. Q. of .82, cannot give her birth year, shows facial asymmetry, rather limited grasp, high palate, cyanotic hands; neurological examination normal. Although she has missed school because of sickness, she is doing good work in the fourth grade. Normal. The younger girl is also normal and has a higher I. Q. than the older sister.

Family 16. Both of these boys are feeble-minded, the older with an I. Q. of .64, the younger with an I. Q. of .75.

Family 24. The ages of these four children are not entirely certain, but are thought to be accurate. The father is now in prison for burning his own house. Both he and the mother are described as "bad characters." The oldest girl (eleven years, three months) has an I. Q. of .98, learned much of sex matters at home, still wets the bed at night, occasionally walks in her sleep, has facial asymmetry, cyanotic hands, an irregular pulse running 96 per minute, enlargement of the thyroid, small, irregular pupils which react well, exaggeration of the deep reflexes. The findings strongly suggest hyperthyroidism. Child B, nine years and four months, has a mental age of seven so that she is feeble-minded if the age is correct. She has scapoid scapulæ, fast pulse, exaggerated reflexes, no thyroid enlargement, normal pupils. Says she has periods of nervousness. Child C, seven years, three months, with an I. Q. of .76 is a border line case, possibly feeble-minded. Child D has an I. Q. of .86 and is presumably normal. There are minor indications in this family of possible congenital neurosyphilis.

Family 27. Children A, C and D are certainly feeble-minded, with I. Q. of .64, .73 and .78 respectively. One older sister is probably also feeble-minded. They come from a very poor home, where frank sexual promiscuity seems to have been the rule. Child A has a definite hyperthyroidism. Children C and D show various stigmata of degeneration. These three children resemble each other very closely, and are all perfect minatures of the ordinary screen "vamp." Child B differs greatly in appearance from the others and is much brighter than they (which she realizes). She is very quaint and precise in her expressions. There is nothing of note in her physical condition, except a very slight enlargement of the thyroid. She is well behaved, an A student in the fourth grade at the age of ten. She is, then, the one normal child in the family.

Family 33. The mother of these children became insane in 1919 (apparently an involutional psychosis) and was committed to Cherokee. In 1920 the father was sentenced to twenty-five years at Anamosa for incest with a step-daughter (not one of these children). All of the children seem to be normal. Child A was somewhat sullen and defiant the day of examination, which probably explains her

low record, as she gives a very intelligent account of her family and herself. C and D are twins, girl and boy, and are reversed in position on the Morgan and Binet tests.

Family 43. The ages of these children are somewhat uncertain. A is certainly feeble-minded; the others are not, if their ages are reliable.

Family 45. Child A is certainly feeble-minded, with an I. Q. of .68. She shows strabismus, high palate, normal reflexes. Child B is possibly feeble-minded, and this must be determined by future tests.

Family 48. The record states that the father of these children became insane and the mother remarried. Child A says she was living with her father and stepmother, that her father was cruel to her and that he ran away. This girl gives a history of fainting spells, of visions, of bad temper, etc. There seems little doubt that she is feeble-minded, with many psychopathic traits and a stormy future ahead of her. Child B is normal, child C is retarded, and probably feeble-minded.

Family 49. Both of these children are normal.

Family 51. These three are normal children, sent to the home because of the father's relations with his housekeeper which led to his arrest and imprisonment.

Family 52. Both of these boys are normal.

Family 54. Child A is a squat, pallid girl, with enlarged thyroid, slow pulse, diminished reflexes and menstrual disturbances suggesting hypothyroidism. She was tested twice at four months interval, the I. Q. rising from .72 to .74, so that the diagnosis feeble-mindedness is certain. B is almost certainly feeble-minded, C is probably normal.

Family 58. The mother of these boys was "unbalanced" for thirteen years—"Talked to herself"—"didn't have good sense." The father was lazy, shiftless, heavily alcoholic. The probation officer has "placed mother where she will be treated, found a home for baby and sister and expect the family to find itself eventually." Child A is definitely feeble-minded, with the fourth lowest I. Q. found in the entire group. Child B, mental age eight, I. Q. .84, is retarded and, in view of the history and his brother's rating, probably will turn out to be feeble-minded also.

Family 59. The parents of these children are divorced. Child A insisted on living with the father, though awarded to the mother. Child A is not feeble-minded. She gives a good history of herself. There have been no sex experiences. She gives a history of visions and occasional auditory illusions. The left pupil is irregular; both react very slightly and very slowly to light. Reflexes otherwise normal. Thyroid palpable, but no signs of hyperthyroidism. Child B is recorded as ten years of age, but insists he is only eight. If the latter is true, he is not feeble-minded. His pupils are also slow, other reflexes normal. In both cases there are definite suggestions of congenital neurosyphilis.

Family 62. These are two of the brightest girls in the school. The younger suffers from bitemporal

headaches such that she can attend school only one-half day, yet she is doing A work in the fifth grade at ten years. There are no abnormal physical findings in either.

Family 63. The father is a low grade laborer, the mother shiftless and immoral. The three older children are definitely feeble-minded, the youngest is probably so, as the chances are his mental age will not continue to develop with his chronological age. To determine this further observation and testing will be necessary.

Family 64. The parents are divorced. The handwriting of the father suggests paresis. There are no signs of neurosyphilis in the examination of the children, both of whom are feeble-minded.

Family 69. Neither of these children is feeble-minded. A has the highest I. Q. found. The retardation of B is excessive, and he may turn out to have reached the limit of his mental development.

Family 70. The parents are divorced. The mother deserted the children, who seem normal in every way.

Family 71. Both of these children are feeble-minded. One brother is in Glenwood. There are no physical findings of significance.

Family 74. The father is very easy-going, a laborer. Mother died of cancer in 1920. The last child is microcephalic. A and B are feeble-minded and show various stigmata; no abnormal neurological signs. C and D, on the other hand, rate well on the tests, and seem quite intelligent. One would like to find some constitutional disease, such as syphilis, which had affected the younger children less than the older, to explain this condition, but there are no indications that this is true.

Family 76. Child A is normal in every way. Child B is definitely feeble-minded, of bad conduct. He shows no neurological or physical abnormalities, beyond a very high palate.

Family 78. The father is dead. The mother deserted the children. The older three are apparently normal, the youngest is retarded and will have to be further observed.

Family 82. Both of these boys we believe are not feeble-minded. Both lack schooling. The older boy took a horse and buggy to go to his uncle's, otherwise conduct seems to have been good. No neurological findings.

Family 84. Child A is definitely feeble-minded. Child B is more intelligent, and possibly normal, though retarded.

Family 88. The girl is a very interesting case of psychopathic personality, with many traits of dementia praecox personality. We think these emotional difficulties probably explain her low Binet age. Her father is now a patient at Cherokee. She shows marked tremor, thyroid enlargement, pulse 120, and other signs of hyperthyroidism. Treatment should first be directed to that. The brother seems normal.

Family 89. These two boys are somewhat retarded, but probably normal.

Accordingly, of the eighty-five children in these thirty-three families, we have twenty-nine feeble-minded; seven retarded, possibly feeble-minded; ten retarded, probably normal; one psychopathic personality; and thirty-eight normal, while there is a question of congenital syphilis in five; hyperthyroidism in two; possible hypothyroidism in one.

For the remaining fifty-six children the diagnoses are as follows:

Feeble-minded—No. 2, 5, 6, 13, 20, 30, 31, 32, 55, 61, 68, 73, 86, equals 13.

Retarded, probably feeble-minded—No. 10, 12, 44, 60, 79, 87, equals 6.

Retarded, probably normal—No. 39, 57, 67, 77, 85, equals 5.

Psychopathic personality—No. 8, 15, 18, 21, 38, 46, 56, equals 7.

Normal—No. 17, 19, 22, 23, 25, 26, 28, 29, 34, 35, 36, 37, 40, 41, 42, 47, 50, 53, 65, 66, 72, 75, 80, 81, 83, equals 25.

Certain of these are sufficiently striking to warrant brief notes.

No. 8. This girl of thirteen is a bold type, with much sex knowledge, who, after the examination, spread a story about that the doctor had asked her some very vulgar questions. She was a runaway, given to exaggeration; showed a tic involving the eyelids; exaggerated reflexes; emotional instability. Diagnosis: psychopathic personality.

No. 15. A girl who previously suffered from chorea; of cyclothymic makeup; without signs of chorea or congenital neurosyphilis at the time of examination. Psychopath of cyclothymic type.

No. 18. Probably the most interesting of all the cases. This girl of seventeen had been for three years at St. Monica's Home in Des Moines, and was transferred because of her behavior. There had been some sex experience, for which she was extremely remorseful, feeling that it was a great sin against God. She has cycles in which she acts very badly, becomes very blue and after two or three days ends up in an outburst of temper and violence. Afterwards she is very sorry, "because it doesn't please God and will ruin me." She is determined to do what is right. Has felt that God has said things to her, and has been very close to her, though she never actually heard His voice. Has fainting spells occasionally. Is tearful in telling of her wickedness and how little she deserves. There is a "widow's peak"—growth of hair until it almost reaches eyebrows on sides, a mongolian cast to the countenance. Neurological examination negative. Intelligence normal. Diagnosis: Psychopathic personality, unstable type. She has since been placed with a family, where she is doing well.

No. 21. A very seclusive, indifferent girl of thirteen, who shows many characteristics of the dementia praecox personality.



No. 31. A girl of sixteen, with I. Q. of .63, who shows grimacing, nystagmus, stigmata of degeneration, unequal pupils, which react well, peg-shaped lateral incisors, palpable thyroid and rapid pulse, so that the questions of congenital syphilis and hyperthyroidism is raised.

No. 32. In addition to low mental rating, presents typical picture of exophthalmic goitre.

No. 38. A boy whose mental rating is just above the moron level, who shows various traits, including bestiality, to indicate psychopathic personality.

No. 46. An interesting case of hysterical type of psychopathic personality, with spells suggesting epilepsy.

No. 87. A probably feeble-minded girl showing enlarged thyroid, excessive pallor, fleshy, stolid in type. Nystagmus, facial asymmetry; pupils and reflexes normal; the whole picture suggesting congenital lues or polyglandular dystrophy.

#### DISCUSSION

It will be seen from the table and the discussion of individual cases, that we divide the cases as follows:

Feeble-minded .....	42 = 29.7%
Retarded, probably feeble-minded.....	13 = 9. %
Psychopathic personality.....	8 = 5.7%
Retarded, probably normal.....	15 = 10.6%
Normal .....	63 = 44.6%

Undoubtedly at first sight the percentage of feeble-mindedness seems high. However, we would suggest that dependent and neglected children are apt to be derived from those portions of the population less endowed with intelligence, and hence less fitted to maintain themselves in the struggle for existence.

Taking together the feeble-minded, probable feeble-minded and the psychopaths, we have a total of sixty-three cases, or 44.6 per cent that present definite psychiatric problems. It must also be remembered that in at least six cases there is definite suspicion of congenital neurosyphilis, and in six glandular disorder of one or other type. All these are, strictly speaking, problems for the physician and the expert in feeble-mindedness rather than for the officers of a home such as this.

To any one who has faced the problem of training a group of children similar to those described in this paper the value of such a survey

as that made at Toledo will be apparent. Those in charge of such a home are responsible for the training of these children in all fields. They not only are required to teach them academic subjects, but must supervise character training and physical development as well. Such responsibility cannot be faced without some scientific knowledge of the material with which one has to deal. Picture the turmoil with its consequent injustice that is sure to result when congenital syphilitics, endocrine disorders and other organic defects are ignored. Because, perhaps, such children cannot learn they are thrown with the feeble-minded. These are all prodded with the ordinary academic problems with no effect and are apt finally to be given up as hopeless cases. To add to this confusion the unrecognized psychopaths are punished for breaches of conduct and the teachers grieve that they have wasted all their energies trying to give moral training to such undeserving or incorrigible children.

With the background of an adequate survey the administrators of an institution can give medical treatment to those cases needing it; they can give training suitable to the mental level of the different individuals instead of trying to teach them subjects beyond their ability; they can give the psychopaths the attention and consideration that they require and as a result can do vastly more for the normal individuals who are thus freed from the retarding and undesirable influence of the subnormals and abnormals.

It would appear to us that the logical time to determine whether the children are normal or abnormal is before they are sent to the Home. This would necessitate some sort of adequate investigative machinery in connection with the courts dealing with these children; a machinery which now exists in only a few cities. No problem is of greater importance than just this one; the proper training of children,—training which can properly only be given when all the limitations of the individual child have been subjected to careful analysis from every possible point of view. Such studies will yield returns economically, socially, and for the individual to an extent not ordinarily recognized. They will help to replace our trial-and-error methods with those more scientific, and hence more humane.

TABLE I

A summary of the findings in each individual case.

Explanation of abbreviations under conduct: E, excellent; G, good, F, fair; B, bad.

The number given refers to the family name, the letter to the individual child. In case there is no letter it means of course that there is only one child of that family at the school.

Other abbreviations are self-explanatory.

	SEX	AGE		Morgan Score	Morgan Rating	BINET		I.Q.	SCHOOL REPORT			DIAGNOSIS
		Yrs.	Mos.			Yrs.	Mos.		Grade	Mark	Conduct	
1a	F	12	9	47	C	..	..	....	..	..	..	Normal
1b	M	11	..	..	..	7	9	.70	..	..	..	Feeble-minded
2	F	7	..	..	..	6	..	.87	K	A	E	Feeble-minded
3a	M	13	9	1	..	7	..	.51	2	C	G	Feeble-minded
3b	M	11	1	0	..	6	9	.61	2	C	E	Feeble-minded
3c	M	8	..	..	..	5	6	.69	1	D	F	Feeble-minded
4a	M	14	10	..	..	16	4	1.10	..	..	..	Normal
4b	F	13	7	..	..	13	..	.95	8	B	G	Normal
4c	F	7	4	..	..	6	3	.85	1	C	G	Normal
4d	F	5	2	..	..	5	3	1.01	K	D	G	Normal
5	M	10	..	..	..	7	..	.70	1	F	F	Feeble-minded
6	..	13	7	..	..	10	..	.79	..	..	..	Feeble-minded
7a	M	9	4	..	..	4	3	.45	K	D	F	Feeble-minded
7b	M	6	9	..	..	4	9	.71	K	C	F	Feeble-minded
8	F	13	6	10	..	10	8	.79	4	B	G	Psycho. Personality
9a	M	10	11	..	..	7	6	.69	2	A	F	Feeble-minded
9b	M	8	2	..	..	6	6	.83	1	B—	G	Probably Normal
10	F	8	2	..	..	6	9	.80	..	..	..	Probably Feeble-minded
11a	M	12	11	39	C	12	4	.95	6	C	F	Normal
11b	M	10	2	..	..	8	9	.87	4	A	E	Probably Normal
12	M	11	..	27	C	..	..	....	..	..	..	Probably Feeble-minded
13	M	5	6	..	..	3	9	.68	K	D	F	Feeble-minded
14a	F	11	5	20	D	9	4	.82	4	A	E	Normal
14b	F	5	6	..	..	5	9	1.04	K	A	G	Normal
15	F	15	10	69	C+	..	..	....	8	B	C	Psycho. Personality
16a	M	10	2	..	..	6	6	.64	1	B	G	Feeble-minded
16b	M	8	3	..	..	6	3	.75	1	C	F	Probably Feeble-minded
17	M	13	8	55	C	..	..	....	6	C	F	Normal
18	F	17	4	95	B	14	11	.86	..	..	..	Psycho. Personality
19	F	11	8	40	C	..	..	....	5	C	F	Normal
20	M	13	8	8	..	9	1	.67	4	B	F	Feeble-minded
21	F	13	3	53	C	..	..	....	8	C	G	Psycho. Personality
22	M	11	9	..	..	11	6	.98	6	C	G	Normal
23	M	10	11	..	..	11	..	....	5	B	G	Normal
24a	F	11	3	35	C	11	..	.98	5	C+	E	Hyperthyroidism (?) Lues
24b	F	9	4	..	..	7	..	.75	3	C	E	Probably Feeble-minded
24c	M	7	3	..	..	5	6	.76	K	B	F	Probably Normal
24d	M	4	11	..	..	4	3	.86	K	C	F	Probably Normal
25	M	13	7	48	C	12	8	.93	6	B	G	Normal
26	F	8	8	..	..	8	..	....	4	A	E	Normal
27a	F	11	2	1	..	7	3	.64	2	D	G	Feeble-minded Hyper.
27b	F	10	1	28	C	9	3	.93	4	A	E	Normal
27c	F	9	..	..	..	6	9	.73	1	C	F	Feeble-minded
27d	F	8	4	..	..	6	6	.78	1	C+	F	Feeble-minded
28	F	6	7	..	..	6	9	1.02	K	B	F	Normal
29	M	9	..	10	..	9	..	1.00	..	..	..	Normal
30	M	14	..	13	..	8	3	.59	4	D	F	Feeble-minded
31	F	16	2	54	C	10	1	.63	6	B	E	Fm. Hyper. (?) Lues
32	F	14	4	11	..	8	6	.59	4	A	G	Feeble-minded Hyper.
33a	F	15	5	45	C	11	7	.76	8	B	E	Probably Normal
33b	F	13	2	82	C+	15	..	1.11	7	A	G	Normal
33c	F	11	7	32	C	11	6	.99	5	B	G	Normal
33d	M	11	7	40	C	11	..	.95	5	B	G	Normal



	SEX	AGE		Morgan Score	Morgan Rating	BINET		I.Q.	SCHOOL REPORT			DIAGNOSIS
		Yrs.	Mos.			Yrs.	Mos.		Grade	Mark	Conduct	
34	M	12	2	64	C	..	..	....	7	B	F	Normal
35	F	11?	9	29	C	..	..	....	4	A	F	Normal
36	M	7	11	..	..	7	9	.98	3	A	E	Normal
37	F	14	..	..	..	12	8	.91	7	B	G	Normal
38	M	16	1	57	C	12	4	.77	6	C	F	Psycho. Personality
39	F	15	11	71	C+	12	..	.75	..	..	..	Probably Normal
40	F	13	4	51	C	..	..	....	7	C+	F	Normal
41	F	14	8	..	..	13	3	.90	7	B	E	Normal
42	M	13	3	52	C	..	..	....	7	C+	F	Normal
43a	M	12	3	2	..	8	3	.67	4	C	E	Feebleminded
43b	M	9?	..	..	..	8	6	.95	..	..	..	Probably Feebleminded
43c	M	6?	..	..	..	5	6	.92	K	B	G	Probably Feebleminded
44	M	12	6	14	..	9	6	.76	5	B	F	Probably Feebleminded
45a	M	12	1	7	..	8	3	.68	3	A	E	Feebleminded
45b	F	9	7	6	..	7	9	.81	3	A	E	Normal
46	F	15	9	..	..	13	..	.83	8	C+	G	Psycho. Personality
47	M	11	8	..	..	11	..	.94	6	B	G	Normal
48a	F	14?	..	69	C+	11	..	....	7	C+	F	Feebleminded
48b	M	10	4	..	..	11	..	1.07	4	A	E	Normal
48c	M	9	3	..	..	7	..	.77	4	A	G	Probably Feebleminded
49a	M	11	6	..	..	9	10	.85	4	A	F	Normal
49b	M	10	..	..	..	8	3	.83	4	A	F	Normal
50	M	14	5	54	C	..	..	....	5	B	G	Normal
51a	F	13	3	44	C	12	6	.94	6	C+	E	Normal
51b	F	12	..	55	C	11	6	.96	5	C	F	Normal
51c	F	8	7	..	..	8	9	1.02	3	C	G	Normal
52a	M	13	..	72	C	..	..	....	7	C+	F	Normal
52b	F	9	6	..	..	9	..	.95	4	B	G	Normal
53	M	13	2	57	C	..	..	....	5	B	F	Normal
54a	F	11	6	9	..	8	3	.72	2	C+	G	Feebleminded
54b	F	10	..	..	..	7	9	.79	1	C+	G	Feebleminded
54c	F	6	4	..	..	6	3	.96	K	C+	G	Probably Feebleminded
55	M	11	..	10	..	8	6	.77	4	E	B	Feebleminded
56	F	14	2	49	C	..	..	....	6	C+	F	Psycho. Personality
57	M	10	1	..	..	9	..	.89	3	Fail	B	Normal
58a	M	13	11	0	..	7	12	.56	3	B	E	Feebleminded
58b	M	9	6	1	..	8	..	.84	3	A	E	Probably Feebleminded
59a	F	14	3	55	C	..	..	....	7	C+	F	Normal
59b	M	10	..	..	..	7	..	.70	2	A	B	Feebleminded
60	M	11	1	24	D	..	..	....	5	C	F	Probably Feebleminded
61	M	11	..	1	..	7	6	.68	3	D	E	Feebleminded
62a	F	12	9	99	B	14	..	1.09	7	A	G	Normal
62b	F	10	8	..	..	10	5	.95	5	A	G	Normal
63a	F	15	9	..	..	8	1	.50	4	B	E	Feebleminded
63b	M	13	5	..	..	9	..	.66	3	B	E	Feebleminded
63c	F	10	8	..	..	7	3	.68	2	C+	F	Feebleminded
63d	M	7	2	..	..	6	6	.90	1	D	F	Normal
64a	F	10	4	3	..	8	..	.77	3	D	F	Feebleminded
64b	F	8	7	..	..	7	..	.81	3	D	G	Normal
65	M	13	7	40	C	..	..	....	5	C+	F	Normal
66	F	11	7	..	..	12	..	1.03	7	B	G	Normal
67	M	6	..	..	..	5	..	.83	K	C+	G	Probably Normal
68	M	13	9	..	..	8	6	.62	5	D+	F	Feebleminded
69a	M	15	1	..	..	18	..	1.20	7	B	G	Normal
69b	F	11	4	..	..	9	3	.81	5	C	F	Probably Normal
70a	F	14	2	..	..	13	7	.96	9	B	G	Normal
70b	F	9	6	47	C	11	..	1.16	5	B	G	Normal
71a	M	10	7	..	..	8	3	.78	3	B	E	Feebleminded
71b	F	8	4	..	..	6	3	.75	1	C	G	Feebleminded

	SEX	AGE		Morgan Score	Morgan Rating	BINET		I.Q.	SCHOOL REPORT			DIAGNOSIS
		Yrs.	Mos.			Yrs.	Mos.		Grade	Mark	Conduct	
72	M	7	..	..	..	6	6	.94	1	C+	G	Normal
73	M	14	7	1	..	7	9	.53	..	..	..	Feebleminded
74a	M	14	3	21	D	9	..	.64	6	C	E	Feebleminded
74b	M	13	..	29	C	9	6	.72	5	B	G	Feebleminded
74c	M	11	5	48	C	12	..	1.05	6	C+	G	Normal
74d	F	8	7	..	..	8	3	.96	3	A	E	Normal
75	F	14	8	60	C	..	..	....	6	C+	F	Normal
76a	M	12	3	..	..	13	..	1.06	6	B	G	Normal
76b	M	6	..	..	..	3	9	.65	K	C	B	Feebleminded
77	F	14	7	40	C	11	4	.77	7	B	G	Probably Normal
78a	F	12	7	42	C	12	11	1.02	5	C+	E	Normal
78b	F	10	..	..	..	8	6	.85	3	B	E	Normal
78c	M	8	6	..	..	8	..	.94	2	B	G	Normal
78d	M	6	1	..	..	4	6	.74	K	C+	G	Probably Normal
79	M	8	7	..	..	6	9	.78	2	B	G	Probably Feebleminded
80	F	15	..	73	C	..	..	....	8	B	E	Normal
81	F	14	2	82	C	..	..	....	9	B	E	Normal
82a	M	13	..	24	D	..	..	....	4	A	G	Probably Normal
82b	M	11	..	16	D	10	..	.90	4	B	G	Probably Normal
83	F	13	7	..	..	13	..	.96	6	B	G	Normal
84a	M	11	6	1	..	7	6	.65	3	D	G	Feebleminded
84b	M	8	9	..	..	7	9	.87	3	D	G	Probably Feebleminded
85	M	9	..	2	..	7	9	.86	..	..	..	Probably Normal
86	M	14	6	3	..	8	6	.58	4	B	E	Feebleminded
87	F	9	10	..	..	7	9	.79	3	B	B	Prob. Fm. Gland Dys.
88a	F	13	8	67	..	10	6	.75	6	C+	G	Psycho. Person. Hyper.
88b	M	8	..	..	..	8	3	1.03	3	A	G	Normal
89a	M	8	2	..	..	7	3	.88	1	C+	F	Normal
89b	M	6	8	..	..	5	6	.83	K	C	F	Normal

## THE TREATMENT OF FRACTURES\*

O. C. MORRISON, M.D., Carroll

A patient presenting a fracture should be looked over very carefully. In case he has sustained a simple Colles, while cranking a car, or the fracture of a finger or of the bones of the leg or foot by a direct blow, it is easy to determine the character of the injury sustained. In case of auto accidents, or where the patient is thrown with violence or is crushed or hit by a large body traveling at a great velocity, as in railway injuries, we are presented with a different problem. We can easily determine that a man who has fallen off a barn, windmill or smoke stack, has a fractured arm or leg, but this same patient may be unconscious, he may have extensive flesh wounds and have shock so severe that death seems imminent at any hour. Under these circumstances we ask ourselves, "What shall we do first?" We wonder if he has a fractured skull, or if he has an open vessel that is responsible for compressing the brain tissues. Has he a depressed fracture, is the liver, the spleen, or other

viscus torn or ruptured, is his bladder intact? Under these circumstances a fracture of the long bones is a negligible thing in comparison. He may have, along with any of these, a compound fracture of the femur. I recall a case that had both legs, one arm and his back broken by dirt falling from a height striking him across the shoulders and crushing him. Yet he is alive after seven years. I bring this picture to your attention to show you that we must meet the most seriously threatening symptoms first, and eliminate them in order until we have cared for every one that is responsible for any pathology in the patient injured. We may find it is necessary to let the fracture of a long bone go for several days until conditions are suited to its care.

*Shock*—I feel that we should consider shock as one symptom accompanying all fractures. We seldom get a fracture of any bone that the symptom of shock is not manifest. It may be slight in severe injuries, it may be out of all proportion in slight injuries. We do not know what shock is. It is like electricity. We know where it is, especially when we get into contact with it for the first time. In severe injuries it is very hard to know which irritation area is responsible for it.

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In injuries about the head with concussion of the brain, we may have extreme shock, again with the severest forms of skull and brain injuries. Compression may cover it so completely that the pulse will be thirty or forty instead of 160 or higher. If the patient has injuries of the abdominal viscera he should be observed by the most experienced surgeon procurable. It is not within the scope of this paper to go into the details concerning visceral injuries complicating fractures causing shock but we are oftentimes delayed waiting for these symptoms to abate before we proceed with our fracture work. The shock from the fracture of the humerus or femur may be fatal of itself. I recall an old lady who sustained a comminuted fracture of the left humeral head and neck, the shock threatened her life for many hours. In fracture of the pelvis, vertebra or skull, it may mean the exitus of your patient unless you are successful in combatting it. When it is severe, it is best to care for it alone allowing all else to wait until this danger is averted and the shock period is passed. We care for the broken limb or bone in a palliative way during this period.

*X-Ray*—If the condition of the patient will permit we should have a carefully planned x-ray examination of every area which we suspect may have a fracture or dislocation.

The x-ray is indispensable in the treatment of fractures. It is an instrument of precision and should be used only by those who understand its use and are acquainted with its interpretations. Every fracture should be rayed in at least two planes. In many fractures the use of a plate of one plane only is worthless and misleading as I will show you in the slides. From the plates you learn the type and extent of fracture and the relationship of the fractured ends. It tells if the bone is comminuted or not as this is important in the treatment. The x-ray plate may be very misleading in children as the uncalsified cartilage may be badly separated and not show, especially in elbow injuries. Experience is the best guide. Fractures of the vault and base of the skull are usually depicted by a well planned plate. Your plate will serve you in a wonderfully intelligent manner if it may, and it is worse than useless to the ignorant and inexperienced. I recall one case in which the acetabulum has been divided; the pubic and ischi arches were fractured through the obturator foramen and the head of the femur was in the abdomen and after several plates, in the hands of the inexperienced had been made, this woman was allowed to be up to the slop jar several times a day and was thought to have a

sprained hip. I do not mention this to belittle, but to call attention to the fact that the x-ray is your auxiliary. You, not the machine, are to possess the intelligence. The best x-ray machine and technician should always be at hand. Poor, cheap machines give poor, inferior plates and in fractures, are too often the basis of damage suits. If each physician who has to do with fractures would insist on good first class x-ray work and would accept nothing else and follow this by intelligent treatment of the fracture, damage suits would become so infrequent as to be almost negligible. If a patient refuses to have plates made, and to co-operate with you, it is a danger signal to be interpreted to mean that a damage suit is already brewing in the mind of the patient and you should feel that you are better off, both mentally and financially when you tell him to go somewhere else to get the services he wants. Personally, I refuse to treat a patient if I cannot do as I feel will be to his best interest. The golden rule will well apply.

I always have the x-ray plate before I attempt reduction, then the reduction, the cast or dressing, and another plate to see the result of my work, and then another plate when all dressings and casts are removed and the patient is to leave my observation. I record all dates and treat every fracture with the precision of expecting to appear in court on the morrow and give an account of every step in my treatment. I keep a constant vigilance over fractures that do not calcify in the time I think they should and in those cases Wassermanns are made.

*Treatment*—In the treatment of fractures the results obtained depend far more upon who is to treat the fracture than upon any specified plan of procedure. In other words, no set plan will give you good results in all cases, even in the same type of fracture. It is necessary for the surgeon to be able to improvise a plan that will give him a good result in the case at hand. He should possess sufficient tact that a good result will reward his efforts and the patient will be well satisfied. The psychology of the patient must be taken into consideration. Before beginning the treatment of a fracture, one looks the situation over carefully from every viewpoint and then selects the treatment that will assure a good result for the patient and leave him 100 per cent happy. The patient's environment, his mental attitude and the influence of his friends may influence your plan of treatment materially. Other injuries sustained at the time of the fracture may cause you to adopt a plan entirely foreign to your custom, but your judgment will best serve you

under these circumstances. One is always anxious to know what plan has been used to immobilize the fractured bone while in transit to the scene of treatment. Did those who brought him to you allow the leg to dangle over the edge of the auto seat or the end of a board and do irreparable damage to muscles, tendons, nerves or vessels before you even had an opportunity to have one word in directing his treatment? In compound fractures one is anxious to know if they have had a spider web poultice on the wound to stop the bleeding, or a dozen cuds of tobacco from twelve mouths advanced in bacterial growth of pyorrhea or other infections. We are anxious to know if a constricting bandage was applied so long as to disturb the circulation of the part, or if there has been sufficient hemorrhage in non-compound fractures to disturb the circulation to the overlying muscles and have surgical acidosis supervene as a reward.

Our part as surgeons in fractures has to do with the proper management of the case to get the best possible repair in the bone. Our treatment naturally falls into two groups; operative and non-operative.

The non-operative fractures are those in which you can get a satisfactory result without opening the fracture in an operative procedure. Any bone at any site may be fractured and a perfectly satisfactory result obtained, again any bone at any site may be so fractured that the ingenuity of the most experienced and highly skilled may find great difficulty in getting a good result. We may say in a rough way, that such bones as the scapula, clavicle, sternum, ribs, pelvis, small bones of the hands and fingers, feet and toes do not require the so-called open plan. All have their exceptions. Did you ever have a fracture, dislocation of the carpus? The simple easy fractures, those that can be easily reduced and little trouble experienced in maintaining the fragments in position should not worry any experienced surgeon and we shall devote little attention to this class of cases. X-ray, cast and good aftercare gives you the result you desire.

The cases that give you the trouble are:

1. Cases in which you cannot get proper apposition by external manipulation.
2. Those in which you cannot maintain proper apposition after reduction.
3. Compound fractures.
4. Fractures where injury has occurred to the surrounding structures and that require surgical care.

*Group 1.* In discussing a plan for the care of apposition we consider all long bones as belonging

to this class. Any of them may have muscle or fascia interposed preventing apposition, or they may be difficult to appose due to their overlying muscles or to their interbony relationship of which carpus is a good example.

One is surprised at the number of fractures of both humerus and femur in which the ends are wrapped with muscle tissue. The care of depressed skull fractures, fractures of the malar bone, vertebra, head of the humerus and femur, patella and many other bones, fall into this group.

*Group 2.* Fractures that require fixation to hold them in position are those upon which we most often operate or use some form of internal splint or fixation. To this group belong the lower jaw fractures, certain types of fractures of all long bones, especially the humerus, femur, bones of the forearm, carpus, astragalus, os calcis, horizontal fractures of the patella, in fact most bones may be subject to this classification. The femur, humerus and both bones of the forearm are perhaps best suited and require the open method more often than any other bones. They are exposed to traumatism more because of function and position, and for these reasons we must be assured of as nearly a perfect a result as is possible. There are many plans of the application of the principles of internal splints or the open method. Each orthopedic worker has popularized a plan and feels that his plan is superior and can be used in all cases. Those of you who have had a broad experience know that you fit a method to the case and not try to fit all cases to one method. In our own work we find many fractures that can be treated with plates and screws. Some of the spiral and long fissured fractures are best suited to the Parham-Martin band. I have used the sliding graft in some and the bone plug in others.

The Lane's plate has been used most extensively by us and has without exception measured up to our expectations. There is no reason why it will not serve any competent surgeon if he will develop the technique sufficiently accurately to do the work. I have gone one step beyond all expectations and made use of it (Lane's plate) in extreme cases of compound infected femur and tibias, humerus and forearm; in fact anywhere. I have no reason to doubt its usefulness and it is responsible for many excellent results for me where other methods had failed. (I shall show you the results in the lantern slides.)

*Group 3.* This brings us to the compound fractures. This class of fractures taxes the ingenuity of the most experienced surgeons. No plan will serve all cases. Again, the ability of



the surgeon must demonstrate a plan that is efficient. Many plans of treatment have been instituted. The Balkan frame was made use of especially for this class of cases during the war with excellent results. Personally I open every case of compound fracture and do what to me seems indicated.

The plan of treatment I have given you permits you to look after the fourth classification or the injured tendons, muscles, nerves and vessels. I never hesitate to open a fracture anywhere in the body if I feel that it should be done. If you have a depressed fracture of the skull it requires the open treatment, or if the brain is compressed by hemorrhage, or the cord is similarly affected, it may require a laminectomy by the open method.

#### CASE RECORDS OF FRACTURES

There is no class of patients where a carefully kept record is so essential.

You will find it very interesting to take the entire history as a routine, like all other routine examination of cases and include carefully, all the history of the injury, which was responsible for the fracture. The patient will appreciate the interest you take in him and you increase his confidence in your work. You will often gather information that will be of untold value to you in your treatment. Suppose he is suffering from leukemia, anemia of the so-called pernicious type, nutritive disturbances or is a case of lues, etc., you will be very liable to unearth these facts and gather them into your data. I well remember a case of ununited fracture of the tibia, of one year standing. I worked him out carefully and settled all the controversy by giving the patient the salvarsan I felt was due him and he had an excellent result.

Keep the dates of the dressings, x-ray plates, history, physical findings and laboratory work, as it will be valuable to you as a guide in your treatment and may be an appreciated breastwork of defense in case of trouble with malpractice. Your follow up notes should be carefully recorded and be sure to have a blood count, urinalysis and an x-ray plate on the day you dismiss the case, as well as on the day you get him. In compound fractures this data is indispensable. Your only guide for amputation in many cases of compound fracture is the secondary changes in kidney, liver and glandular destruction due to chronic sepsis. You should amputate before these changes come, not after. Before you have kidney changes suggestive of a nephritis and chronic sepsis is marked, save the patient from having crippled kidneys and distorted glandular function.

Every case of fracture should have a case record of which you will be proud in any court of appeal. Preparedness and a "watchful waiting," often calls a bluff even in medicine and surgery. If case records were so made in all cases and the work so done, 98 per cent of damage suits would be averted and fractures would be considered things of intense interest.

#### RESUME

In the treatment of fractures, I have discussed no particular plan. The literature is full of plans. Every orthopedist of great reputation feels that he has a plan that fits any case. A few weeks ago I saw a man demonstrate the Balkan frame and he said that a Colles' could be treated in the frame with excellent results, but who wants to be in a Balkan frame for a Colles'. Every plan may serve you in certain cases. Your intelligence is your guide. You have a large storehouse of plans and methods going back beyond the Balkan frames. Thomas splints, Sayers plans, etc. Hipocrates had many plans of treatment. The surgeons in the army of Israel had many plans and one of the commentaries goes back to the early days of the Hindu and Chinese literature and says they used every principle of the Thomas and Hodgus splint and Balkan frame seven thousand years ago. But back of all this, in the beginning, man was given intelligence and was expected to use it and select the best from every great plan that it may serve his purpose for the good of humanity.

#### A BRIEF HISTORY OF PUBLIC HEALTH MOVEMENT\*

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When we speak of public health three subjects at once present themselves before us: sanitation, hygiene and preventive medicine. These are divided and subdivided until they form one great grand net work which involves the welfare of men, women and children.

In looking over the history regarding public health, it is difficult to tell when the idea first originated, as we find the germ spreading through many years in an obscure way.

In 1849 a great cholera scourge swept over England. The clergy went to the prime minister asking him to set aside a national day of fasting and prayer. His reply was to the effect that they should go back and clean up their homes, cities, and then ask God to bless their efforts, to

\*Address before State Society Iowa Medical Women.

rid themselves of the pestilence. This created considerable comment, as it was looked upon as sacrilegious, accordingly a day of fasting and prayer was set aside and observed by the churches, but the cholera continued to rage. One little community took the statement literally, cleaned up their homes, and village and appointed a "vigilance committee" to carry on the work. They not only did not have a case of cholera but found a lessening of other diseases. This attracted notice throughout the country and set people to thinking more definitely along sanitary lines.

The early thought in all public health work, was to protect the sound from the sick, and little thought was given to the individual suffering from disease. Our first hospitals were established by individuals and associations, and in every country the government has been the last to take up this very important side of the situation.

As might be expected, the European countries have taken the lead in priority in the great public health movements. In the European countries, health work has come largely under the control of the government. The officers in this line of work have nearly all had special training.

In our own country, the progress has not been quite so rapid, due to political influence or control over public health officials, the lack of knowledge of the people and hence of the government, in the true value of life and health. Lord Beaconsfield's saying "that public health is the foundation on which rests the happiness of the people, and the power of the country; the care of the public health is the first duty of the statesman" seems to not be comprehended in its full significance. Our government has conserved our rivers, our forests, our mineral lands and animals with more care than they have the human life. These things are all essentials but should stand second, rather than first, in consideration. The health of man should stand first, if we are to have a strong thinking nation. It was demonstrated in 1915 by Professor Irving Fisher and others, that in the United States approximately 3,000,000 people are constantly sick, at least one-third of whom are in the working period of life. "Dr. Joseph S. Neff makes the following deduction, allowing for the non-employment of one quarter of these, and assuming the average annual earnings to be \$700, we find over \$500,000,000 to be the minimum loss of wages, in addition to which the cost of medical attendance and nursing must be added; an annual loss to the nation of great magnitude. As public health is not considered from a commercial standpoint, it

has not so readily obtained appropriations from city, state or government sources.

As our cities have grown, population increased, diseases carried by immigration more attention has been given to this important subject and some splendid work has been done by our country. Every year finds us more alive to the great problems before us. In 1863-4 an epidemic of typhoid fever raged in this country. Dr. Stephen Smith of New York tells us that while working in a hospital he noted the number of cases that came from a single house, he visited the home, and found it "a filthy, deserted building, the resort of immigrant families." The attempt to close the house revealed the fact that there was neither law, ordinance, or force of any legal kind, adequate to do it. When these facts became known it led to a "Citizens Association" undertaking to secure health laws. The final outcome was the enactment of the metropolitan health law, in 1886. This law gave unlimited authority to the health officers and forbade court proceedings delaying or obstructing its abatement of nuisances. The legislature restricted its expenditures to \$50,000 annually. In 1915, they were freely giving \$4,000,000 for the work. The death rate in New York showed a remarkable decrease as the result of the labors.

The Public Health Service of the United States dates back to 1796, when steps were taken for providing medical and surgical relief to merchant seamen. At first, this was financed by a per capita tax, collected from the seamen, the funds being handled by the collectors of custom in the various ports. Subsequently, this was changed into a tonnage tax, collected through the same channels. This explains why the marine hospital work (the precedent of the present United States Public Health Service) came to be lodged in the treasury department, for the collections of customs was naturally a growth of the American Merchant Marine in the first half of the nineteenth century, this method of providing for the merchant marine was found to be inadequate, and the government, therefore, established "marine hospitals" at various important points.

In an effort to guard against the introduction of dangerous pestilential diseases from without, it was natural that the officers of the marine hospitals, stationed as they were at the important ports of entry, should come into close relation and take an active interest in marine quarantine matters. In addition to this, the repeated introduction of yellow fever into the southern states, and the alarm occasioned thereby, caused repeated calls to be addressed to the federal government



to take charge of control measures at the infected points, in order to prevent the spread of disease to other parts of the United States. There being no special federal health agency, these calls were naturally referred to the United States Marine Hospital Service. More and more, therefore, this service began to undertake federal public health activities, a fact which was recognized by Congress, when, in 1902, it changed the name of the Service to the United States Public Health Service and Marine Hospital Service. More recently still, in 1912, the name was still further changed to its present designation, namely, the United States Public Health Service.

The United States Public Health Service is a bureau in the treasury department. At its head is the surgeon general. He is assisted by a staff of assistant surgeon generals. Most of these have charge of important functional divisions. As at present organized, the work is carried on under the following divisions:

Division of personnel and accounts.

Division of marine hospital. (In addition to caring for merchant seamen, this division has charge of all the medical and surgical relief work for discharged soldiers, sailors, marines and nurses, who are beneficiaries under war risk insurance act.)

Division of domestic quarantine. (This controls the important field relating to the control of disease through interstate traffic.)

Division of scientific research. (This is a large division engaged in studying the diseases of men through field investigations and laboratory work.)

Division of sanitary reports and statistics. (This division collects information regarding the prevalence of communicable diseases, disseminates it through publications and otherwise to health officers and sanitariums throughout the country.)

Division of venereal diseases. (This recently granted division was established by Congress primarily to safeguard the nation's manhood against the ravages of venereal infection.)

Section of public health education. (A recently established activity for promoting public health through popular health education.)

The great World War from which we are realizing the after effects, has led the Public Health Service to establish a special program to care for what seems to be the live problems of the day, briefly it is as follows:

Industrial Hygiene.

Rural Hygiene.

Prevention of the Diseases of Infancy and Childhood.

Water Supplies.

Malaria.

Venereal Diseases.

Tuberculosis.

Railroad Sanitation.

Municipal Sanitation.

Health Standards.

Health Education.

Collecting of Morbidity Reports.

Organizing and Training of Duty in Emergency of the Reserve of the Public Health Service.

The State Public Health Department in many states is doing most excellent work, but I am going to confine my remarks to some of the things being done in Iowa.

The Iowa State Board of Health was organized in 1880. It was composed of seven physicians, and a civil engineer, appointed by the governor and serving seven years each. There being one member retiring each year, and a new one appointed. The attorney general and the state veterinarian were also members of the board. The secretary was elected by the board and was not a member. He had no power to do anything except as he was directed by the board in session.

There was no change in the above until the Thirty-fifth General Assembly. The law was changed as follows. The governor, secretary of state, auditor of state, and treasurer of state should all be ex-officio members of the State Board of Health. All funds to be expended under the supervision and sanction of the executive council. The governor of the state, the secretary of state, and auditor of state to be an appointing board, and the secretary of the executive council is the secretary thereof. The appointing board appoints five members of the board which consists of four physicians and a sanitary engineer. Of the four physicians not more than two shall belong to the same school of practice. Of the five no more than three shall belong to the same political party. When the board of health is not in session the secretary, by law, is the state health commissioner and the health officer of the board, and has full power to act in the same manner as the board would have when in session. This law provides that an efficient member may be re-appointed.

The board of health acts on all the examining boards pertaining to medical subjects, generally one or two additional members being appointed for the subject being considered.

The sanitary conditions of the state are being improved under the board, health bulletins are issued, vital statistics kept. A board of health lab-

oratory was established some years ago in connection with the board of health. This is located at Iowa City and under Dr. Henry Albert, bacteriologist. Here physicians of the state may have free examinations of bacteriological specimens and Wassermann reactions. Patients who have been bitten by rabid animals are treated here by the Pasteur method, free of charge.

Medicines for the treatment of infectious diseases may be secured through the board of health at a much more reasonable price than elsewhere. During the past year a state lecturer, Dr. Jeannette Throckmorton, has been sent out under the board of health to discuss health problems with the women and girls of our state. She has lectured in 112 towns and cities and delivered over 500 lectures, reached 91,000 women and girls. This is a splendid line and should be carried on until teachers are prepared to teach these things and health problems are a part of the school and college curriculum. The State of Iowa appropriates thirteen mills each year for the health of each person of the state. Not much value placed on a human life, is it?

Is it not time that the saving of human life have a department of its own, instead of being a division of the treasury department? The state, national and community health officers should be especially trained for their work.

Politics should play no part in their appointment, it should be a matter of qualification and only resignation, inefficiency, and death should terminate their tenure of office. The remuneration should be sufficient to interest bright active individuals in preparing themselves. Several of our colleges and universities are now offering courses and conferring degrees.

Of each hundred dollars spent by our government during 1920, only one dollar went to public health, agriculture, and education—just one per cent for life, living conditions and national progress.

We must do much in community education. When people understand the causes of disease and how to prevent it, then we may hope to attain the maximum health of each individual of the community.

Time does not permit me to mention the individuals and associations which have been so active in promoting the worthy movement. I trust that by thus briefly reviewing the history of this movement, I have been able to make you think of the great work which has been done, and, most of all, of the greater things which are still to be done and which will be considered more in detail during this meeting.

## RENAL FUNCTION TESTS IN CHRONIC NEPHRITIS\*

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The functional test of an organ contemplates a measurement of that organ's efficiency. It is intended to show, in a more or less mechanical way, the capacity of that organ to perform its work. The nature of these examinations varies quite as much as do the functions of the organs and systems to be tested. For example, a most valuable functional test of the heart may be carried out by simply noting the effect of muscular exertion on the cardiac and respiratory rate. On the other hand, a functional test of the thyroid gland may, in many instances, necessitate a complete and rather complicated basal metabolism determination.

Inasmuch as the kidney is an organ whose function is purely excretory its functional capacity may be determined by fairly direct means. By certain urinary examinations it is possible to know what the kidney is actually eliminating; through certain blood examinations it is possible to determine what the renal glands are failing to do.

In structure, the kidney is very complex. Histologically, the cells are highly differentiated. It will be recalled that there are two anatomical elements which go to make up one functioning secretory unit: the glomerulus and the convoluted tubule. The former is a small tuft of capillaries so tortuously coiled and wound upon themselves that the blood in passing through them, is exposed to a large filtration surface. What passes through this filtration bed—the filtrate—is collected by means of a capsule surrounding the glomerulus and is conducted on through the convoluted tubule. The latter forms the second element of the secretory unit.

Physiologists are not all agreed on the exact nature of the cellular activity which takes place respectively in the glomeruli and tubules, particularly in regard to osmosis, selective secretion and selective absorption. Yet for the present it will suffice to say that by a combination of these processes, certain waste products are eliminated from the circulating blood. It is held that water and salts are filtered out of the blood in its passage through the glomerulus. Beyond all question it is known that certain of the renal cells, particularly those of the loop of Henle, possess the power of selective excretion. It is also known that many substances which are eliminated by the

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kidney must be present in the blood in certain definite concentration before their excretion begins. For example, glucose is present in the blood normally in a concentration of from 8/100 to 12/100 of one per cent or an average of one gram per liter. Normal kidney cells do not eliminate it. If this amount of sugar were to double or treble then the elimination would begin and a glucosuria be the result. The same principle holds for the elimination of many products of intermediary metabolism. In fact, all chemical elements of the blood, such as urea, uric acid, creatinin, ammonia, lipoids, amino-acids, sodium, potassium, iron, carbonates, sulphates, chlorides, etc., are maintained at a remarkably constant and fixed level of concentration due to the selective mechanism of the renal epithelial cells.

Ordinarily, we conceive the primary function of the kidney to be that of urinary excretion, but of equal if not greater import, is the additional duty of maintaining the proper equilibria in the blood. And from the point of view of what happens in the nephritic individual, this latter function is of the utmost importance.

From the foregoing, some idea may be had of the normal function of the kidney. When it is realized that this process must go on whether we are awake or asleep, active or inactive, or on an acid or alkaline diet, under the most extreme variations in environment, and in the presence of disease affecting other parts of the body, it will be seen that the efficiency of the normal kidney is nothing short of marvelous.

This leads us to the consideration for a moment of what factors may impair kidney function. I have recently read an article on chronic nephritis by Prof. Ringer.<sup>1</sup> His views regarding the etiology seem to me so unique and yet so sensible that I shall take the liberty to quote from his article. He says:

It is in the nature of human inquisitiveness to look for a cause for every disturbance in the normal run of events. It is also natural for us to find something to blame it on. In regard to chronic nephritis, if we find the patient gives a history of scarlet fever, tonsillitis, malaria, pregnancy, exposure to cold, etc., we feel satisfied to put some blame on them. Since there are very few people who have not had one or more of the above diseases, and since it is definitely known that scarlet fever, tonsillitis, malaria, etc., may be followed by acute nephritis, and since acute nephritis frequently is followed by chronic nephritis, the chain of evidence seems fairly well established that these infectious diseases are largely the causative agents of chronic nephritic involvement. In

some cases in which we get a history of absolute well-being throughout the entire period of the patient's life, without any history of illness whatsoever, we put the blame on some "noxious poison" or some "product of metabolism" and let the matter go at that.

To my mind this does not at all seem a satisfactory explanation of the cause of nephritis. When we administer small doses of uranium nitrate to animals, a severe form of nephritis is set up. It does not attack some and leave out others, but attacks every animal. The same is true for every nephrotoxic substance, be it cantharidin, lead, mercury, tartaric acid, oxalic acid, etc. They all attack the kidneys of every animal that receives the poison. When we see a large number of human individuals develop scarlet fever, some of most severe type, and come out with kidneys unaffected, whereas in others the mildest attack will be followed by nephritis, the same being true for tonsillitis, malaria, pregnancy, exposure to cold, etc., I cannot but feel that these intoxications play but a secondary role, i.e., merely an exciting role and that the primary seat of trouble lies in the kidney itself. We can readily conceive of organs in the human body at birth being of functional capacity below par. A great many combinations may go wrong during the period of embryonic development, especially during the period of differentiation, giving rise to single organs which may not be equal to the task thrown upon them in later life and which will break under the strain, giving rise to abnormal physiologic function, disease and finally pathology.

My conclusion, therefore, in regard to the causes of nephritis is, that all the factors usually mentioned, as the etiologic factors, as infection, exposure, pregnancy, autointoxication, etc., are the precipitating causes, but underlying that the patient's predisposition plays the greater role.

If the individual goes on in life without any serious infection or intoxication he may stay well. As he progresses in life the weak organ is the first one to show signs of "old age" and begins to fall behind in its function.

Regarding the pathological physiology of the kidney on a basis of the foregoing general considerations, we may readily see that any disturbance in the glomerular function will be followed by disturbance in the water and salt elimination. Clinically, this may result in an accumulation of water in the tissues, with œdema and general anasarca, depending on the severity of the case. If salts are imperfectly eliminated they will increase first in the blood and then the tissues, and water will be held back to keep these in isotonic solution. A kidney like this may have no trouble in disposing of the products of protein metabolism, like urea, uric acid, and creatinin. Such a patient may be said to have a salt retention nephrosis, and that such a condition actually does occur is

1. Ringer, A. L.: American Journal Medical Sciences, June, 1921, Vol. clxi, No. 6.

evidenced by the fact that simply a salt free diet will be the means of ridding a patient of œdema when all other means fail.

On the other hand disturbances in the tubular portion of the kidney will cause an interference in the elimination of the non-protein nitrogens, while water and salts may be secreted perfectly. A chemical examination of the blood in the more advanced cases will yield an abnormally high amount of urea, uric acid, or creatinin or all of them, and simultaneously in the urine a corresponding diminution of these substances together with a specific gravity which is persistently low and fixed, i. e., not showing the usual hourly variations in relation to meals and sleep.

Clinically, these patients may present a great variety of symptoms. Frequently their first warning is through the refusal of life insurance. They may have no subjective symptoms. Again, there may be nothing more than simply a tired feeling, especially in the afternoons. The blood pressure, if taken, will be found to range from 150 to 180. As these cases progress, other symptoms are complained of, such as; headache, dizziness, shortness of breath and palpitation of the heart, insomnia, tinitis aurium, cardio-vesicular and gastric disturbances. Every physician of experience is familiar with the story of the chronic nephritic and with the final picture, in the severe cases—retinitis, diplopia, irrationality, convulsions, and coma.

Some attempt has been made to classify these cases on a basis of clinical symptoms. In actual practice, I doubt the value of such a classification, but for convenience of discussion one might recognize three or four groups of clinical symptoms corresponding to the severity of kidney tubule involvement. (Ringer.)

Group I. In which the patient has no subjective symptoms, and only slight objective signs, e. g., a slight rise in blood-pressure.

Group II. In which the patient's symptoms are slight, not enough to be incapacitating, but objective signs more marked and permanent.

Group III. In which the patient is obliged to limit his daily activities, and the interdependence of organs, the one upon the other, is seriously disturbed.

Group IV. Comprising the patients who show unmistakable signs of general physical breakdown, decompensation, cardiovascular and nervous symptoms, and whose days are numbered.

Reference to these groupings will be made later in correlating the results of functional tests with symptoms.

From a standpoint of kidney structure, then, there are these two general nephritic syndromes;

the one arising from interference with the function of the glomeruli and characterized clinically by œdema; the other arising from disturbances primarily in the tubules, interfering with elimination of the products of metabolism. In their later stages both structures may break down and we see a combination of the two symptoms to form a third symptom complex, characterized by both a general water-logging of the body and metabolic toxæmia.

Since there are many more cases of the second type than of the first it follows that the tubular portion of the kidney structure is more vulnerable than the glomerular, or else the latter possess a greater inherent factor of safety.

The diagnosis of nephritis is usually made by the finding of albumin or casts or both in the urine. Ordinarily the amount of albumin or the number and character of the urinary casts is taken as an index of the severity of the process. In a fair percentage of cases of acute nephritis, this correlation of laboratory and clinical findings will hold good, although every one has had the experience of finding a heavy albuminuria in a patient manifesting only the mildest symptoms of nephritis. On the other hand such a correlation between the urinary findings and clinical symptoms is notoriously uncertain in cases of chronic nephritis. The trace of albumin and the few hyalin casts are not criteria of the severity of chronic kidney disease. If the tests of renal function have taught us anything, they have taught us the fallacy of this belief.

The questions arise now, what other means have we at our disposal for demonstrating renal impairment? Is it possible to get an idea of which element of the secretory unit of the kidney is involved? Is it possible to find out in a specific way what the kidney is failing to do, to the end that treatment might be directed in a more logical manner?

#### FUNCTIONAL TESTS

There are four types of functional tests that we employ today, each of which has its special advantages.

(I) The first type consists of finding the tolerance of the body to certain substances, chiefly lactose or glucose. Normally, an adult should be able to take 150 grams of glucose on an empty stomach without a glycosuria following. This test is used more in studying carbohydrate metabolism as a whole, than simply the renal phase of it, although the test is of value in the diagnosis of renal diabetes.

(II) The second type depends on the ability of the renal cells to pick out from the blood and



excrete an inert dye. The best example of this, is the "Red test"—the dye is phenol-sulphone-phthalein. It is reliable, efficient, and easily carried out. .

The technique is as follows: (a) direct the patient to drink about a pint of water to insure free diuresis. (b) Inject one c.c. of phenol-sulphone-phthalein solution (which contains 0.006 grams of the drug) intramuscularly. (c) Note the time and then direct the patient to empty the bladder, discard the specimen. (Make due consideration for enlarged prostates in men and prolapsed uteri and cystoceles in women.) (d) At the end of one hour and ten minutes direct the patient to void. Collect and save the specimen. (e) One hour after the first voiding collect and save the second hour's output. (f) Alkalinize with 5 c.c. of strong KOH solution and dilute both samples up to 1000 c.c. (g) Match the color of each specimen with a standard.

A normal kidney will excrete not less than 30 per cent or 35 per cent of the dye in the first hour and about 20 per cent to 25 per cent during the second or a total of 55 per cent to 60 per cent.

(III) The third test is made by a qualitative study of the urinary output. It is based on the following consideration first suggested by Schlayer and Hedinger and developed in detail by Mosenthal.

If we collect the urine of any normal individual for a twenty-four hour period in two twelve hour portions, starting the first twelve hour period at 8:00 a. m., and the second twelve hour period from 8 p. m. to 8 a. m. the following day, we find that the relationship of day excretion to night excretion is constant both in quantity and quality, provided the individual has had his principal meal in the daytime, supper at 5:00 p. m., and does not eat or drink till the next morning.

The nocturnal output will be under 400 c.c. The relation of day excretion to night excretion for nitrogen, roughly 3 to 2, and for chlorides, 3 to 1 or 4 to 1.

The reason for this is the following: the food is ingested during the twelve hours of the day. As quickly as it is digested the products of metabolism like urea, uric acid, the chlorides, etc., enter the blood stream. As their concentration in the blood rises the kidneys excrete them in the urine. Normal kidneys respond so promptly that comparatively little is left for night excretion. Therefore we have a low nocturnal output of water and less solids.

If, however, the kidneys do not respond so promptly, and begin to fall behind in their work,

some of the material which should be eliminated during the day will be held over to the night, and the proportion of day to night solids will approach each other. There will be a nocturnal polyuria because, with the excretion of more solids, there will be a larger amount of water.

By morning all the nitrogenous products from the blood are excreted and if we examine the blood then by chemical means it will be found normal in its nitrogen concentration.

Therefore, it is possible by observing the shifting of the day to the night ratios in salt and nitrogen excretion to detect an approaching renal insufficiency before the blood figures change.

To carry out this test as outlined above requires more laboratory apparatus and experience than the general practitioner has. Mosenthal and his co-workers have shown the close relation existing between the nitrogen and salt content of the urine and its specific gravity. They have proposed, in cases of chronic nephritis, a two hourly test of the urine during the day and a single nocturnal specimen. This test is so simple that it may be carried out while a patient is ambulatory, and with but little inconvenience. The directions are as follows: The patient eats and drinks what he is accustomed to, but must be sure that neither food nor drink is taken between meals or after supper. The bladder is to be emptied at 8:00 a. m., and that specimen discarded. After that the urine is voided at two hourly intervals until 8:00 p. m. The next morning at 8:00 a. m. the last specimen is voided. The gravity of each separate specimen is taken and recorded.

In checking over the figures for a normal individual, it will be found that the maximal gravity reading is 1020 or over. This signifies that the kidney is able to concentrate. A high specific gravity, if the amount of urine is high, amounts to a guarantee of normal renal function. Another characteristic of the normal test is the variation in gravity readings. Mosenthal says that there must be at least nine points difference between the maximum and minimum for the twenty-four hour period. Usually there is a variation of from 12 to 15 points on the urinometer readings. A variation of only three or four points is regarded as a fixation of the gravity, inability to concentrate if the reading be low, and impairment of function is the interpretation. A fixation of the gravity at a high level occurs in acute and subacute nephritis, but here the quantity of urine will also be greatly diminished as will also the salt content.

(IV) The fourth test for kidney function consists of examining the blood for products of

metabolism, which are normally found in very small quantities, and which are found to be greatly increased in the more advanced cases of renal disease. As a class, these substances are known as the incoagulable or non-protein nitrogens, chiefly urea, uric acid, and creatinin.

Whenever the kidney falls so far behind in its work that it cannot eliminate in twenty-four hours the entire excess of these nitrogenous products in the blood, then they begin to accumulate. The blood of a normal individual in the morning before breakfast contains not more than 20 mg. of urea, 3 mg. of uric acid, and 2 mg. of creatinin per 100 c.c. of blood. The blood of a nephritic who is out of nitrogen equilibrium due to failure of excretion may contain from 50 to 150 mg. of urea, 3 to 10 mg. of uric acid, and up to 5 mg. of creatinin. When a creatinin concentration of 5 mg. is found the case is hopeless, and death from uremia is imminent.

I should like to say here that these blood tests have been worked out carefully and in the light of my own limited experience, seem to be very useful. Those who have had the most experience are very enthusiastic as to their value.

To illustrate the practical use of the blood test, let us suppose that a patient consults you on account of the following train of symptoms; a dull headache, tires easily, is dizzy at times, and has transitory visual disturbances. You find his blood-pressure elevated and a trace of albumin and a few casts in his urine. You may carry the examination a step further and find his "Red test" for two hours to be 35, somewhat under normal. Your advice to him and treatment will be much more intelligent, if you know whether he has begun to store up urea, etc., and if so, to what extent. Sometimes the differential diagnosis of gout and infective arthritis will come up and a blood examination will throw some light on the subject. Other conditions in which these tests may be helpful are: in the differential diagnosis of eclampsia, prostatic obstruction and other urologic conditions, malignancy, disorders of the ductless glands, and in the conditions simulating uremic coma, particularly diabetic coma, and drug poisoning.

As in the case with most technical investigations, so it is in renal function tests, they contribute to diagnoses but do not create them.

In conclusion, these various tests have their places individually and collectively. With the exception of the blood examination, they have the merit of being simple and could be carried out in some form by every practitioner himself. By

means of their intelligent application it is possible to better understand and better advise that great class of patients who are suffering from renal disease. When we can say that a patient has a phthalein output of 35 per cent with a limited capacity for water and salt excretion, while his nitrogen excretion is normal; or that another patient has a fairly normal phthalein output, excretes water and chlorides perfectly, but falls behind in his nitrogen excretion, and shows a retention of the same in his blood, we have a decidedly clearer and more useful conception of what is wrong than if we say simple chronic interstitial nephritis.

The former has a note of antemortem hope in it; the latter will require a post-mortem examination to absolutely confirm it.

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#### TRAUMA AS A FACTOR IN THE ETIOLOGY OF HYDRONEPHROSIS

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Dr. Frederick C. Herrick in the *Journal of Urology* for January, 1921, discusses the clinical status of trauma in producing hydronephrosis. Dr. Herrick finds two groups of cases which may be fairly due to injury; first, those in which the demonstrable tumor appears within a few days or weeks after the injury. Second, those cases in which after a variable period of disability following an injury go about their usual activities but begin to notice gradually increasing more or less, marked symptoms of pain, increased frequency of urination, possibly cloudy urine or occasional hematuria. In cases of the first group, the history of trauma and succeeding illness; in those of the second group, the history of trauma is easily overlooked and may have occurred one or many years before consultation. These cases present diagnostic pitfalls for the unwary clinician.

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As a family physician Dr. Charles E. Sawyer may be eminently satisfactory to the members of the Harding family. It was the privilege of the president to choose his own doctor. That he went back to his home town for this service is not unusual. Neither so was the conferring of the title and rank of brigadier general upon his physical advisor. But when he put him at the head of the central body of hospitalization for disabled ex-service men, it was apparently without regard for the limitations of the small town medic. As an executive Dr. Sawyer appears to have flivvered. And his failure inflicts a hurt where the country is most sensitive, namely in the care of its war heroes. If this general who never saw a day's military service is holding up relief for shell shocked veterans he should be speedily removed from the office and permitted to give his entire time to the president's health.—Davenport Times.



# The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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## EMBARGO ON GERMAN DYES AND SYNTHETIC DRUGS AND CHEMICALS

It is rather surprising to find in the Association Journal of July 22, 1922, an editorial argument in support of an embargo on German dyes, in the interest of certain millionaires who have secured control of the manufacture of American dyes and who would place every industry that uses dye, under tribute and the additional cost shifted to the consumer. Of course, the editorial avoids direct reference to dyes but refers particularly to German drugs which are important products from dyes and appeals to the patriotism of the American physician in a way quite proper in time of war but quite aside from American ideals in time of peace. We have adopted certain peace resolutions and are presumably on terms of peace with Germany.

The real interests involved are the interests of a commercial company known as the Chemical Foundation, with Francis Garvan as president. It appears that in 1917 Mr. Garvan was appointed Alien Property Custodian and took over certain German patents which included a considerable number of synthetic chemicals and drugs which American chemists had not been able to make. Now that we are at peace with Germany, President Harding proposes to return to German owners the property seized. It was found that Mr. Garvan, without authority, has sold these patents to his own company for the ridiculous sum of \$250,000 which were, in fact, worth many millions. It is fair to presume Mr. Garvan and his

associates had in mind profits of many millions of dollars. The editorial was presumably prepared by interested parties and has set forth claims of a most extraordinary character such as to create a feeling of admiration for their ingenuity. The whole matter has been set forth by the daily press in all our principle cities and President Harding has directed the Department of Justice to commence criminal proceedings against Mr. Garvan and the Chemical Foundation.

The real interest is the dye interest which as every one knows, has tried persistently to induce Congress to place an embargo that would give a few individuals an entire monopoly of dyes to the great disadvantage of the American people. It is well known that German chemists had devoted many years of patient investigation to synthetic preparation of drugs and chemicals which were of superior quality. The field was open to chemists of all the world but the opportunity was not accepted for the reason we are now told that Germany was able to obtain cheap labor (pauper labor we presume), a rather old story but has sometimes served its purpose in times of tariff agitation. It is not clear to us that cheap labor would be serviceable in the manufacture of synthetic drugs. The Journal of the American Medical Association has on many occasions, warned us against American synthetics and imitations. We are strongly of the opinion that American physicians would prefer German synthetic drugs for the present at least. We do not doubt the skill of American chemists; they had their opportunity but did not avail themselves of it, for reasons that have been kept secret until now. We believe there were other reasons for it than the one set forth. The editor by implication, at least, suspects that we are soon to have war with Germany for, we are warned, that, "never again should we permit any foreign domination of our therapeutics." We may say in return that we never should be at the mercy of commercial exploitation of the Chemical Foundation or any other drug monopoly but should be permitted to purchase our drugs in any market that gives us what we want; that is our kind of "Americanism." It would be quite to the purpose, for the great Medical Journal, to which we look for enlightenment, to wait until the government criminal prosecution for fraud is closed and Congress has disposed of the tariff question on dyes. The embargo has apparently been settled by vote of the Senate which has given great offence to certain interests. Must we always be bound down by commercialism and to special interests as the only test of "Americanism?"

Now comes Clinical Medicine with an inspired editorial presenting the same line of argument although more frankly commercial in character. If it is true that Germany can manufacture dyes and synthetic chemicals and drugs more cheaply and better than we can, why should we, as practitioners of medicine and as the American people, generally tax ourselves in the interest of the Chemical Foundation or any other monopolistic corporation? The spirit in which these editorials are written is not in the spirit of protest against destructive legislation but in the spirit of commercialism.

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The objections we present to the embargo on German synthetic chemicals and drugs are based on the interests of the medical profession and the public we serve. There is, however, another point of view which was set forth by Mr. Underwood in a recent Senate discussion, endorsed by newspaper editorials, that inasmuch as the German government owes us certain sums for indemnity claims that we are justified in seizing private property, namely, German patents held by the Chemical Foundation for the purpose of liquidating American claims. It appears Secretary of State Hughes holds to a different opinion as to the ethics of the case and directs that a mixed commission be appointed to investigate and report on the legal bearing and on the justice of these disputed claims. Mr. Hughes is the responsible representative of the government.

We have so much prided ourselves on our high sense of justice that it is sincerely to be hoped that we shall not permit ourselves to be so influenced by selfish notions and bitterness of feeling as to lead us to do even German citizens an injustice. We have to confess that this is a branch of the subject upon which we are not qualified to speak and may safely leave it to international lawyers and diplomats.

The subject becomes more painful as we read a pamphlet sent to the address, we presume, of every physician in the United States under the title, "An Open Letter to Warren G. Harding, President of the United States." In this letter it is made apparent that the President has acted without knowledge of the facts and that the Attorney General has made no investigation and that he had given an opinion unfairly and unjustly, or in other words, the President and the Attorney General have conspired to deprive the Chemical Foundation of exceedingly valuable assets acquired while Mr. Garvan was acting as Alien Property Custodian. The right of Mr. Garvan to sell to the Chemical Foundation alien property

under the direction of Mr. Wilson and Acting Secretary of State, Frank L. Polk, or whether Mr. Wilson or Mr. Polk knew that Mr. Garvan was the principal beneficiary when the instructions were given are of course legal questions and should be settled in the courts. Ordinarily when a trustee sells property held in trust to himself at his own figures we should look upon the transaction as somewhat shady.

The propaganda part of the pamphlet addressed to the medical profession is not convincing. The alleged generous amounts in financing certain scientific educational work bears the impress of "good business." Whatever may be the legal status of the matter the Courts or Commission may determine, there are strong objections, however, to forcing the users of dyes and synthetic drugs and chemicals to place themselves at the mercy of a monopolistic corporation under whatever guise it may be. The Senate very properly refused to grant the embargo, and it is to be sincerely hoped that the Senate will maintain the same attitude in the future. An embargo or a prohibitive tariff under the plea presented is contrary to every principle of justice and right to the medical profession and the public, and it would be not a little to the discredit of the profession if we were caught by this extremely plausible and active propaganda which shows unmistakably the great commercial value of these patents to certain great money interests.

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#### BENJAMIN FRANKLIN AS A MEDICAL CONTRIBUTOR

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It appears, according to the Journal of Florida Medical Association, that in Franklin's day there was little or no medical literature in America. That in 1785 he invented bifocal lenses, a flexible catheter, and contributed to the treatment of nervous diseases by electricity. He wrote on deafness, gout, sleep, lead poisoning, heat in the blood, infection from dead bodies, death rate in infants and medical education. He wrote a history of the Pennsylvania Hospital of which he was the principal founder (1751). He also wrote a pamphlet on inoculation in small-pox.

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Disregard of the claims of science when there is no direct money gain does not seem to be confined to any country. Even the far off Philippine Islands have a grievance as stated in the Journal of the Philippine Islands Medical Association. "The government did not consider it excessive to defray the expenses of one hundred thirty odd athletes, representing the Philippines in the Olym-



piad that took place in Shanghai last May; but our critical financial condition was found to be a good excuse for suspending the trip of our medical representatives already appointed to the International Congress of Tropical Medicine that was to be celebrated in Wellesreden, Java, at the beginning of August this year. Five representatives appointed, expenses 5,000 or 6,000 pesos (dollars).

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### BRACHIAL BIRTH PARALYSIS

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Dr. Albert W. Adson of the Mayo Clinic in an address before the Idaho State Medical Society, published in Northwest Medicine, for February, 1922, presents observations on forty-five birth paralysis patients. He states, while birth palsy has been known to occur in normal easy labor, it is more generally the result of prolonged and difficult labor. Adson shows that 73 per cent of their group of birth palsies were forceps deliveries.

The relation of birth palsies to shoulder dislocations are shown, Adson finds that in their forty-five cases twenty had dislocations. The older the patient the more frequent the dislocation. Apparently showing that the changes in the tissues of the joint by injuries to nerves favored dislocation as a secondary result of the paralysis.

The treatment by operation does not appear to give better results than treatment without operation. Of the forty-five cases given by Adson, twenty-five were operated upon, fourteen were failures, and eleven with 40 per cent improvement. Treatment by operation should not be entirely disregarded. All treatment should be based on the cause and degree of injury. Dr. Adson analyzes all his cases and places a fair estimate on the value of the treatment employed, but we cannot avoid the impression that quite as good results come from non-operative treatment.

It is apparent that Dr. Adson does not agree with Dr. F. Turner Thomas of Philadelphia as to the cause of birth paralysis. We are to conclude that Dr. Adson attributes the paralysis to injury to the brachial nerves and the subluxations are secondary to an injury to the nerves and to changes in the tissues due to the paralysis. Dr. Adson states that only twenty out of forty-five cases had dislocations. Dr. Thomas contends that it is not to injury of the nerves that birth paralysis is due, but to a primary subluxation of the head of the humerus; that the true lesion is a joint lesion and should be treated as such. The important consideration is an early diagnosis reduction and proper retention. If this could be

accomplished these late birth brachial paralysis would disappear.

Dr. Thomas presents a personal experience of 471 cases in a paper published in the American Journal of Medical Science for February, 1920, and in the Transaction of the College of Physicians (Philadelphia) for 1919. This paper presents an exhaustive resume of the subject and is worthy of careful study. If Dr. Thomas is correct in this contention, and his views seem logical, it becomes the duty of the accoucheur to examine the shoulder of the new born with great care for evidence of paralysis, deformity or apparent pain on motion, or inability to move the arm, for evidence of dislocation, or partial dislocation, and if the conditions above described are found reduce and retain in position for a proper period of time and then employ active motion.

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### EVIL EFFECTS OF TOBACCO

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At a recent meeting of Rock Island surgeons at Colorado Springs a paper was read setting forth the deleterious effects of tobacco on employes, and incidentally on people in general, including we assume, doctors too. It is not specifically stated that any considerable number of railway disasters were due to the effect of tobacco but from the paper and some of the discussions, we may easily suppose that was the case. Tobacco users may be of the opinion that much of the paper and discussion grew out of personal prejudice not a little influenced by the fact that when doctors meet in convention the rights of non-smokers receive little consideration except when the meetings are held in churches which are usually avoided, if possible.

The principle reason we have in referring to this subject is the editorial by Dr. L. J. Mitchell in the May number of the Official Journal of the American Association of Railway Surgeons, (The Surgical Journal). Dr. Mitchell who knows more about all sorts of things than anyone we know, goes over the subject in an exhaustive manner. We would advise all smokers who have any doubts about the effects of tobacco to read this editorial. Dr. Mitchell finds the strongest arguments against the use of tobacco in the report of a meeting of the deans of women in colleges recently held in Chicago, in which it was held that smoking is "filthy, vile, dirty, nasty, vulgar." This appears to refer to co-eds, if so there should be no controversy. Dr. Mitchell's final comment on this report is, "We read nothing about amblyopia, but seeing the good ladies were not physicians, this may be pardoned."

The Boston Medical and Surgical Journal for July 20, 1922, presents some interesting foreign notes abstracted from Science.

At the time of the celebration of the centennial of Pasteur's birth, in Strasbough, a congress of hygiene and bacteriology will be held for discussion of questions relating to disease. In order to show the sympathy of Great Britain with the projects of the French committee, a British committee composed of the following members has been formed: A. Chaston, H. E. Field, Professor Percy R. Frankland, Sir John M'Fadyean, Professor C. J. Mardin, Sir W. J. Pope, Sir James Walker and Sir Almroth Wright.

On June 4, at the special invitation of the governors and the medical school, Professor Harvey Cushing took over the directorship of the surgical unit of St. Bartholomew's Hospital and replaced the director, Mr. Gask, for ten days. The compliment was, as it were, a return for a like compliment paid to Mr. Gask last year, when he acted as temporary chief of the Peter Brent Brigham Hospital, Boston, to which Dr. Harvey Cushing, as professor of surgery at Harvard, is surgeon.

Dr. Norman Fridge of Los Angeles in a paper published in The American Medical Press for June, 1922, under the title of "The Nursing Situation to Hospitals and Care of the Sick," says in relation to hospitals.

#### New Fashions in Hospitals

But there is great need for more hospitals, especially for those so built and so endowed that the room charges to patients would be much reduced from present figures, say to one dollar per day. Hospitals should be built more cheaply. Inexpensive detached buildings should be the ideal. I know fireproof structures are desirable, but they are very costly. And substantially all of us live through our whole lives in combustible houses. Why, then, couldn't we consent to go to a cottage hospital that is half as combustible as our dwellings?

The hospital fashion should be modified. More patients should be cared for in their own homes, and many more minor surgical operations should be done there. One of the leading surgeons has just told us how he elects to operate on certain cases in their beds in the hospital. It would mean more labor on the part of the household, more inconvenience for the doctors and nurses. And the household would need to be educated in the unusual care required—and that could be done—and would be for the large benefit to the community.

#### CONSULTATION ON VENEREAL DISEASE BY CORRESPONDENCE

The Division of Venereal Diseases of the United States Public Health Service, Washington, D. C., has arranged with several prominent syphilographers and genitourinary surgeons whereby the advice and counsel of these authorities is to be made available to general practitioners. The plan is referred to as "Consultation by Correspondence."

The method of utilizing this service is for private practitioners who have under their care any cases of venereal infection which they wish to describe to a specialist and ask for advice in regard to treatment or to the method of procedure in handling the case, to send to the State Board of Health, B. of V. D. C. (Bureau of Venereal Disease Control) a letter setting forth all of the data which they wish brought to the attention of the proper specialists. These letters will be forwarded to the Public Health Service who in turn will secure an answer to the communication from the best known specialist on the particular phase of the subject discussed in the communication from the private practitioner. It is believed that this sort of correspondence between private physicians and well known specialists will be of material benefit in many cases. This service is, of course, entirely free of charge.

#### IOWA STATE UNIVERSITY NEWS NOTES

Dr. Don M. Griswold, Iowa City

Mr. E. A. Nixon has been appointed assistant in pharmacology, College of Medicine, S. U. I. Mr. Nixon was formerly assistant pharmacist at S. U. I. Hospital.

Dr. G. H. Miller of the Nelson Morris Research Institute, Chicago, has accepted a position as assistant professor of pharmacology at S. U. I. College of Medicine.

Dr. Marcus P. Neal, assistant professor of pathology and bacteriology at the State University of Iowa, College of Medicine, Iowa City, has accepted a position as professor of pathology and bacteriology at the University of Missouri School of Medicine, Columbia, Missouri.

A meeting to revise the rules and regulations of the State Board of Health, was held in the medical building of the State University, Iowa City, Friday, August 4. Those present were Dr. Rodney P. Fagen, secretary-executive officer, and the board members: Dr. Frank T. Launder, Garner; Dr. H. C. Eschbach, Albion; H. V. Pederson, sanitary engineer; Dr. C. S. Grant, Iowa City. J. J. Hinman, Jr., chief of the water laboratory, State University, and H. C. Griefe, assistant secretary, Des Moines, were also present at this meeting.

Dr. Grant entertained the members of this assem-



bly at a 6:00 o'clock dinner at his home on Summit street.

Dr. Steindler, professor of orthopedics at the University of Iowa has been spending the summer in Europe, leaving Iowa City the latter part of May. He is expected to return the first part of September. During his visit in Europe he was particularly interested in visiting the clinic of V. Putti, Bologna, Italy. He has also visited the various orthopedic clinics in Vienna and in Germany.

Dr. Robert V. Funsten who has for four years been connected with the orthopedic service of the University Hospital at Iowa City as first assistant and instructor, is leaving in September to take up the practice of orthopedic surgery in Detroit, Michigan, where he will be connected with orthopedic work at several institutions, including the Veteran's Bureau Hospital.

Miss Marion Bell has taken up her work as biochemist in the department of pediatrics.

Dr. Senska of the class of 1911 has just arrived at his post as medical missionary in Sakbayeme, West Africa.

Dr. Charles Thomas of the Student Health Department has been in Baltimore for two weeks.

Miss Helen Stewart, director of the School for Public Health Nursing attended a meeting of the three national nursing organizations at Seattle, Washington. Each three years, the national organization for public health nursing, the national league for nursing education and the American Nursing Association, have a series of joint meetings. This meeting brings together those persons most interested in these lines of nursing work.

Miss Jesse L. Chapman, city nurse for Iowa City, has resigned and Miss Margáret Kemmerer has been appointed to fill the vacancy.

Mr. Harley Dolan has recently been appointed technician in the laboratory of the head specialties clinic.

Miss Josephine Crielman, formerly connected with the University Hospital, is returning to be the superintendent of the Nurses' Training School.

Dr. A. B. Mulsow is acting as profesor of pathology and bacteriology for the present school year.

### RADIUM INSURANCE

Dr. George E. Pfahler of Philadelphia, a few months ago, became very much interested in radium insurance because an announcement was made that

Lloyd's of London had raised the annual premium to 5 per cent. Refer to editorial comment in the Journal of Radiology, Volume 3, No. 4, April, 1922, page 145.

Dr. Pfahler called for assistance of the radium producers in order to secure a radium policy that would give owners protection under all reasonable conditions, and he suggested that a policy obligating the company to pay 75 per cent, of any loss instead of 100 per cent would doubtless give a more favorable rate and a coverage that would be acceptable to doctors.

Working on this suggestion, we are pleased to announce that the Insurance Company of North America, a strong, old and reliable American insurance company, is prepared to write policies covering all risk, but with a loss payment of 75 per cent. This policy is offered at 2 per cent per year.

In developing this policy, a firm of insurance brokers in New York rendered very valuable assistance. We, therefore, take the liberty of suggesting that if you are interested in radium insurance, you communicate with Mr. O. M. Middleton of the firm of Alberti, Baird & Carleton, Inc., 50 Pine Street, New York. A request to Alberti, Baird & Carleton, Inc., will bring you a specimen policy.

We have studied the radium insurance question for a long time and are glad to bring this policy to your attention since it has our complete approval.—Boston Medical and Surgical Journal, June 1, 1922.

### DES MOINES AS A MEDICAL CENTER

For the past forty years Des Moines has enjoyed a reputation as a medical center in the Middle West. In 1882 the first medical school of the city was organized and occupied rooms in the old Register building on the corner of Fourth and Court. From that date until 1913 the city was continuously the seat of a medical college, and during the last ten or twelve years the school was a department of Drake University and ranked very high in the personnel of its faculty, the character of its instruction, and the class of its students. The graduates of the Des Moines Medical Colleges are scattered throughout almost every state in the union.

Des Moines early recognized the necessity for adequate housing and nursing of the sick, and the Mercy and the Iowa Methodist Hospitals were organized more than twenty years ago to fill this need, and throughout this period, these institutions have rendered a conspicuous service to the community and the medical profession in the facilities they have afforded for the study and treatment of disease. During the early part of this period these institutions developed largely around surgical clinics, but with the modern trend for the hospitalization of medical and obstetrical cases as well, these with the newer institutions, viz.; the Iowa Lutheran, the Iowa Congregational, and the City Hospitals have developed

special departments which are equal to any in the largest cities of the land.

These five leading hospitals are all modern in their construction and appointments and afford a combined capacity for six hundred and twenty-five beds. Each has its own nurses training school organized and conducted according to the standards of the state. They are equipped with the recognized modern facilities for laboratory and clinical studies, and for special treatments of a very high order. On their staffs are well trained representatives of the leading medical and surgical specialties, as well as x-ray and laboratory specialties, a number of whom have been medical teachers. Des Moines maintains a modern City Hospital of seventy-five beds for the indigent of the city and the county, and this institution houses the Municipal Health Center where dispensary services are rendered daily to forty or fifty patients.

Daniel Glomset, M.D.

*Remember the Des Moines Clinic  
October 18, 19, 20*

## SOCIETY PROCEEDINGS

### Greene County Medical Society

Greene County Medical Society met Friday, July 28, at the home of Dr. and Mrs. B. C. Hamilton, Sr., following attendance at the tubercular clinic. A picnic supper was enjoyed following which Dr. John Peck of Des Moines gave a very instructive talk on Care and Treatment of the Tuberculosis.

The following were present: Drs. Kester, Reed and wives of Grand Junction; Dr. Shipley of Rippey; Dr. and Mrs. Waddell of Paton; Drs. Gressler, Spear and wives of Churdan; Dr. Pressnell of Scranton; Drs. Hoyt, Hamilton, Jr., Dean, Hamilton, Sr. and wives of Jefferson; Dr. John Peck of Des Moines.

### Jones County Medical Society

Jones County Medical Society met July 17, to honor Dr. H. W. Sigworth, Sr., father of the Waterloo physician of the same name. The elder Dr. Sigworth, who is now eighty-five years old, has practiced medicine for fifty years in Anamosa. He previously practiced for twelve years in Waubeek, Linn county. Present also at the meeting was Dr. F. B. Sigworth, a son of Dr. H. W. Sigworth, Sr., who is practicing medicine at Anamosa.

Dr. H. W. Sigworth, Jr., read a paper on Conservative Surgery for the Safety of the Patient, and Dr. J. Lynne Crawford, Cedar Rapids, read a paper on Duodenal Ulcer. Another speaker was Dr. Charles Ryan, Des Moines.

Another angle of interest was that Dr. J. Lynne Crawford is the son of Dr. G. E. Crawford, who bought out Dr. H. W. Sigworth, Sr.'s practice at Waubeek when the latter moved to Anamosa a half century ago.

A dinner was had at the meeting, at which many interesting reminiscences of the early days were recounted.

### Van Buren County Medical Society

The Van Buren County Medical Society held its fourth annual picnic Friday, July 14 at Chautauqua Park, Farmington. About 100 were present, including doctors, their families and friends. Physicians were there from Ottumwa, Keokuk, Burlington, Mediapolis, as well as nearly every doctor in Van Buren county. Dinner was served cafeteria style about 1:00 o'clock, after which the following program was given:

Peptic Ulcer, Dr. L. A. Coffin of Farmington. Diagnosis of Troubles in Lower Right Quadrant, Dr. C. R. Armentrout of Keokuk. Infections of the Hands, Dr. C. H. Magee of Burlington.

The officers are: President, Dr. T. G. McClure of Douds; vice-president, Dr. G. R. Neff of Farmington, and secretary, C. R. Russell of Keosauqua.

### 1922 Mid-Summer Session Austin Flint-Cedar Valley Medical Association

Tuesday, July 11, 9:00 A. M.

The Importance of Early Treatment of Chronic Nasal Catarrh or Chronic Inflammation of the Nose Proper, Dr. James K. Guthrie, New Hampton.

Something to Think About, Dr. Frank Wm. Porterfield, Waterloo.

The Production of the Artificial Menopause, Dr. F. H. Cutler, Cedar Falls.

Acute Appendicitis, Dr. W. A. Rohlf, Waverly.

1:00 P. M.

Some Obstetrical Problems Involved in Still Births and Deaths of New Born Infants, Dr. Charles S. Bacon, Chicago, Illinois.

Treatment of Placenta Previa, Dr. George A. Plummer, Cresco.

Pulmonary Abscess, Dr. W. W. Bowen, Fort Dodge.

Recent Progress in the Treatment of Chronic Empyema, Dr. Carl A. Hedblom, Rochester, Minnesota.

Some Factors to be Considered in the Etiology of Backache, Dr. H. W. Meyerding, Rochester, Minnesota.

Early and Late Lesions, Due to Electric Injuries, Dr. Oliver J. Fay, Des Moines.

Prof. Miloslovich of the Marquette Medical School of Milwaukee, Wisconsin, did not appear on the printed program, but the association was fortunate in securing his consent to address the gathering here.

A banquet was given at 6:30 p. m. Tuesday at the Firemen's Theatre, followed by a dance.

Wednesday, July 12, 8:00 A. M.

The Function of the Gall Bladder, Dr. G. M. Crabb, Mason City.

Intestinal Obstruction, Dr. Monroe M. Ghent, St. Paul, Minnesota.

The Doctor and the Neuropath, Dr. Charles R. Ball, St. Paul, Minnesota.

A Clinic on Diseases of the Nervous System, Dr. Clarence Van Epps of Iowa City.

President's Address, Dr. W. T. Peters, Burt.



1:00 P. M.

Opportunities and Means of Giving Patients Consulting the Surgeon a Better Service—with Special Reference to the Neuroses, Dr. Henry J. Vanderberg, Grand Rapids, Michigan.

Mistakes Made in the Treatment of Fractures, Dr. H. L. Beye, Iowa City.

Ethics in Fractures, Dr. Felix A. Hennessy, Calmar. Hypertension, with Special Emphasis on Treatment, Dr. J. H. Powers, Saginaw, Michigan.

The Treatment of Bright's Disease, Dr. Daniel J. Glomset, Des Moines.

The officers of this association are W. T. Peters, Burt, president; E. L. Rohlf, Waterloo, vice-president; J. G. Evans, New Hartford, treasurer; L. A. West, Waverly, secretary.

The board of censors: Dr. L. C. Kern, Waverly; Dr. O. M. Landon, New Hampton; Dr. A. B. Phillips, Clear Lake.

#### Austin Flint-Cedar Valley Medical Association

Austin Flint-Cedar Valley Medical Association will hold its November meeting at Mason City.

Officers of the association elected at Hampton are: Dr. E. L. Rohlf, Waterloo, President; Dr. J. G. Evans, New Hartford, vice-president; Dr. L. A. West, Waverly, secretary; Dr. W. E. Long, Mason City, treasurer.

#### Medical Society of Cedar Falls

The City Medical Society of Cedar Falls held a special meeting Tuesday evening, June 20, at the Black Hawk Hotel. Dinner was served and the regular business of the society dispatched. Dr. Bradford of Jancsville gave a very interesting talk on the History of Medicine. His medical career already filling sixty-nine years is closely associated with the development of this part of the country. His first calls were made on horseback, over roads that would be considered impassable now. His talk rekindled respect for the high ideals of the profession.

A definite plan was decided upon for the holding of a series of programs during the ensuing year for advanced study of medical subjects.

#### HOSPITAL NOTES

Sister Mary Frances, a Sister of Mercy at St. Joseph's Hospital for twenty-seven years, died suddenly July 8 at the hospital after an illness of only six hours. Death was due to a sudden attack of apoplexy.

The sister was on duty in the hospital during the morning hours and had just gone into retreat with other sisters of the hospital when she suddenly collapsed. She was dead before medical aid could reach her.

The sister joined the order of the Sisters of Mercy at Davenport, and has resided in Sioux City since then, excepting two and one-half years spent in the

mother home at Davenport. Sister Mary Frances had been night superintendent of St. Joseph's Hospital for the last eight years.

Before becoming a sister, she was Miss Mary Mulcrome. She is survived by two sisters, Sister Mary Bernedine and Sister Mary Gabriel, both of Davenport. She was forty-nine years old.

The doctors of Shenandoah are the first to come to the assistance of the Hand Hospital in the present drive for funds. The medical men have voted to give \$500 towards the upkeep of the institution.

Dr. Bert Bahr of Grand Island, committeeman for Iowa, Nebraska, Kansas and Missouri district of the National Disabled American Veterans of the World War was in Des Moines July 30.

Dr. Bahr's mission includes an inspection of the disabled veterans hospital at Knoxville. This hospital, according to Dr. Bahr, is wrongly located. Inadequate train service and the expense of equipping and building there are the main features of the objection.

Dr. Bahr maintains that the hospital should be located at Iowa City.

Dr. Gladys L. Carr, one of the most eminent practitioners in the science of x-ray, has been secured to fill the laboratory post at Finley Hospital, Dubuque. She is a graduate of Tufts Medical College, Boston, of the class of '06, following which she was an interne at the New England Hospital for Women and Children for one year. From 1909 to 1914 Doctor Carr engaged in private practice in Boston, then going to the Peter Brent Brigham Hospital in that city, where she remained until 1918. She resigned this position to accept a post as roentgenologist with the American Commission of Relief in the Near East, seeing active service in Asia Minor. Returning to America in 1920, Doctor Carr became roentgenologist at Burnett Sanitarium, Fresno, California. She is the author of several works on the x-ray, and a member of the American X-Ray Society and the Radiological Society of North America.

#### PERSONAL MENTION

Dr. and Mrs. F. J. McAllister of Hawarden and daughter, Morine, who have been spending most of the past year at Los Angeles, California, arrived home June 30. The Doctor is much improved in health.

Dr. John W. Shuman, who has practiced medicine in Sioux City for ten years, with the exception of eighteen months in service overseas, has accepted a place as professor of internal medicine at the American University of Beirut, Assyria. This university, which was established in 1863 as the Syrian Protestant College, has been doing wonderful work. It now is non-sectarian and receives students from many different nations and creeds. Dr. Shuman will

succeed the famous Dr. Harry Graham, who died after thirty-three years of service at the university. Dr. Shuman, accompanied by Mrs. Shuman and their children, will leave this country the latter part of August. They will remain at Beirut for three years. If at that time conditions warrant it, they will continue to make their home there. Dr. Shuman, who pioneered in the field of internal medicine in Sioux City, is inspired to take up the work in the East by the wide field and possibilities for service. Not far from Beirut, Rev. and Mrs. Desmond Smith are serving as missionaries on the Presbyterian board. Mrs. Smith is a sister of Dr. Shuman. He is a graduate of Geneva College and of the College of Medicine of the University of Pittsburgh. He is also a fellow of the American College of Physicians. During his ten years' practice in Sioux City he has established an enviable reputation among the surgeons and physicians. For several years he has been on the board of trustees of the Trinity Lutheran church. He has also been active in athletic and club circles.

Dr. C. S. Chase, 331 South Johnson street, Iowa City, relinquished his position with the College of Medicine of the University after serving as a professor for the past thirty years. During the time he has been on the college faculty the first fifteen years were spent as a part time instructor, Dr. Chase has been professor of material medica, therapeutics and pharmacology. While Dr. Chase steps out of his position with the College of Medicine he will not become wholly separated from the University. He has been asked to accept a position of state-wide service for the medical college, making trips to various parts of the state recruiting students for the nurses training school and other similar work. Dr. Chase also retains his relations with the dental college and school of pharmacy. Although his new duties will take him out of the city at times, he will continue to make Iowa City his home. Dr. O. H. Plant, on the faculty of the College of Medicine the past two years, who has had charge of administration of the department, succeeds Dr. Chase as professor of materia medica. Dr. Plant came to Iowa City from the University of Pennsylvania, School of Medicine. During the two years he has been here, Dr. Plant has devoted part of his time in the compilation of the history of the College of Medicine from 1870 to 1920. The book, which will contain about 600 pages, generously illustrated, will trace the growth of the college in an evolutionary manner. The work is nearing completion and will probably be published late this year.

Dr. Ben Hamilton of Jefferson has recently returned from Boston, Massachusetts, where he attended courses in pediatrics and physical diagnosis at Harvard Medical School during May and June.

A tuberculosis clinic was held at Jefferson Friday, July 28, under the auspices of the Greene County Medical Society with Dr. John Peck in charge and County Nurse Green assisting. The medical society enjoyed a picnic and baseball game following the clinic.

Dr. C. Corbin Yancey, formerly of Chicago, has taken over the practice of Dr. John W. Shuman, suite 535 Frances building, Sioux City. Dr. Shuman sails September 13 for Beirut, Syria, where he will occupy the chair of internal medicine at the American Medical College. Dr. Yancey intends to engage in the practice of internal medicine, x-ray diagnosis and consultation.

Dr. D. H. Nusbaum has opened an office in the Park building at Storm Lake.

Thirty-one thousand cases have been examined and treated at the Des Moines Health Center since its start almost three years ago, a rate of about 1,200 cases a month. Dr. Ruehl H. Sylvester has resigned to take up private work. Dr. Sylvester will remain as head of the center until September 1, when his successor will be announced.

Dr. Lenna L. Meanes, medical director of the Women's Foundation for Health, is now located at 43 East Twenty-second street, New York City. She expects to be in the East for several months.

Dr. H. I. Wilson has recently come to Ft. Dodge and is associated with Dr. G. W. Clark in the First National bank building. This is the first step in the organization of a complete general dental dispensary, which Dr. Wilson states, is designed as nearly as possible, after the generous plan followed by the Mayo Clinic, in general surgery.

Dr. Nelle Noble, 1050 Twenty-fifth street, Des Moines, entertained a group of the women physicians of the city at a dinner party August 2 at Harris-Emery's tea room.

Dr. A. J. Germain of Chicago has entered into partnership with Dr. William Slattery of Dubuque, a well known physician of that city.

Dr. C. D. Fellows of Algona has been appointed United States physician and surgeon for that district.

Dr. Newsome of Indianola has entered into partnership with Dr. Ernest Slaw of Menlo. Dr. Slaw is a graduate of the Medical School of Iowa State University and served an internship in the Congregational Hospital at Des Moines.

Dr. G. W. Rimel has located in Bedford. Dr. Rimel is a graduate from Iowa University Medical School.

Dr. E. H. Crane of Odebolt has sold his practice and hospital in that city and has located in Cedar Falls where he will confine his practice to eye, ear, nose and throat diseases.

Dr. E. A. Nash of Bristow purchased the practice of Dr. E. W. Sproule of Peterson and located there August 1. Dr. Nash has recently completed a post-graduate course.

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## MARRIAGES

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Dr. Paul F. Stookey, Kansas City, Missouri, formerly of Des Moines and Leon and Miss Clara Sachse of Kansas City, Missouri, were married June 9, 1922. Dr. Stookey has resigned from the position of medical officer in charge of the local office of the United States Veterans' Bureau, and will leave at an



early date for Vienna, Austria, for six months' study in the skin clinic.

Dr. Hoyt Stonebrook of Eldora and Miss Norma Hepburn of Charles City were married at Charles City, June 5, 1922.

Dr. Thomas J. Irish of Forrest City and Miss Magdaline Grimm of Iowa City were married at Iowa City, July 1, 1922.

Dr. W. B. Sperow of Carlisle and Miss Lola Rogers of Montezuma were married June 20, 1922.

## REPORT OF THE COMMITTEE ON ARRANGEMENTS, DES MOINES SESSION, 1922

### Receipts

Exhibitors .....	\$1,200.00
Banquet tickets.....	412.00
Deficit paid by local physicians' subscription .....	598.93
Total.....	\$2,210.93

### Disbursements

Hotel Ft. Des Moines—banquet and smoker	\$1,427.00
Address at banquet.....	100.00
Yunker Bros.—ladies' reception.....	46.75
Music—banquet and ladies' reception.....	50.00
Gail Fitch—orchestra, banquet.....	24.00
M. Holly—monologue, banquet.....	15.00
Flowers .....	20.00
Banquet tickets and seller.....	9.75
Des Moines Fire Works—caps, banquet.....	20.00
Badges, janitor and miscellaneous.....	13.55
Cigars and cigarettes.....	98.59
G. W. Ball—orchestra, quartette, dancers, impersonators, soloist, two boxing bouts (smoker) .....	160.00
Raymond N. Carr—quartette (smoker).....	25.00
Chas. Prerett—magic act (smoker).....	35.00
W. B. Lowrey—whistling (smoker).....	20.00
Refreshments (smoker).....	103.50
Tips (smoker).....	30.00
Coolidge Advertising Co.—multigraphing and mailing .....	12.79
Total.....	\$2,210.93

Respectfully submitted,  
Thos. F. Duhigg,  
Chairman Arrangement Committee.

### OBITUARY

Dr. E. T. Jaynes, age fifty-three, physician and surgeon practicing in Waterloo the past thirteen years, with office and residence at 315 Franklin street, died recently in Presbyterian Hospital, where he had been taken for emergency treatment. His death, wholly unexpected, came before an operation could be performed and was due to spinal meningitis, developing from an abscess in the ear.

While Dr. Jaynes had suffered the past month from

the infection of the ear, his condition was not alarming until yesterday morning. On Monday he attended to his medical duties as usual and was seemingly in good health aside from the ear trouble. Sudden stricture yesterday morning resulted in his being taken to the hospital, where the ailment developed so rapidly that medical science was powerless to stay the fatal termination.

Dr. Jaynes had an honorable record for service in the World War. He enlisted in the medical corps and was assigned to the Great Lakes training camp and Fort Sheridan, Illinois, with the rank of captain. He did valuable service during the influenza epidemic and also in caring for returned soldiers disabled from wounds or illness. When discharged he was breveted major, and returned to his practice and family at Waterloo.

He was born December 3, 1869 at La Monte, Missouri. Previous to coming to Waterloo he practiced in Parkersburg and New Hartford. Surviving are the widow and four children.

Dr. John W. McKone of Lawler died July 16, 1922. Dr. John W. McKone was born January 26, 1872 at Lawler, Iowa, the oldest son of Mr. and Mrs. James McKone. He grew to manhood there, was educated in the Lawler schools and was later graduated from the Medical School of the Iowa State University of Iowa City. He also took at post-graduate course in Rush Medical College in Chicago. While a student for his professional degree he spent some months in New Hampton studying under the late Doctor I. K. Gardner.

Having completed his training he opened the practice of his profession in Lawler.

On May 28, 1901, he was married to Miss Maria Burke of New Hampton. To them one child was born, John Robert McKone.

Dr. M. Hilbert died at Battle Mountain Sanitarium, South Dakota, January 16, 1922. Melancthon Hilbert was born in Harrison county, Ohio, on July 17, 1841, and at the age of fifteen years came to Iowa and settled at Fairfield, Iowa, where he lived until July, 1863, when he entered the army and served in the First Arkansas Cavalry. He entered the army as a hospital steward and was promoted to a lieutenancy and served as adjutant to the regiment. He was mustered out of service in 1865 and attended medical college at Ann Arbor, Michigan, and practiced medicines in Clarke county and in 1869 he graduated from Rush Medical College, Chicago, and came to Le Mars, being the first physician to locate there. Many stories are told by the early settlers of Dr. Hilbert's devotion to duty and of the many arduous trips he made by field and in flood mounted on his faithful gray nag with his saddle bags, to relieve suffering and introduce the little stranger to the world. The heat of summer and the blizzards of winter told their tale on his health and he soon discontinued the practice of medicine.

Dr. George Albert Spaulding, resident of Avoca for the past thirty years and a widely known physician and surgeon in southwestern Iowa, died August 2, 1922, at the Swedish-Emmanuel Hospital, Omaha.

Death was the indirect result of chronic gall-stones followed an operation. He was about fifty-five years of age.

Dr. Spaulding was born in the state of New Hampshire, September 30, 1867, and was the son of John and Augusta Spaulding. When a lad he left the New England state with his parents who settled near Charles City, where he attended school.

Dr. Spaulding studied medicine at the State University, Iowa City, and was a member of the class of 1888. Following his graduation he began practice at Quinter, Kansas, where he lived two years.

In 1890 he came to Avoca and opened an office.

In February, 1894, he was united in marriage to Fannie L. Blake. To this union were born three daughters, Edna, Ethel and Georgia, all at home.

George Louis Day, youngest son of Elmus and Susan Kelley Day, was born on a farm near Sweetland, Muscatine county, March 23, 1870 and died July 20, 1922, at about 8:10 p. m. His early life was spent on a farm. Later he entered business college in Davenport and attended for one year, after which he entered Highland Park College, Des Moines, where he spent two years. He then enrolled in the Medical College at the State University of Iowa from which institution he graduated in March, 1895. During his medical course he spent his vacations in the office of Dr. F. H. Little of Muscatine. On April 2, 1895, he married Mary Elizabeth Stanwood of Sweetland. The following week they moved to Lone Tree, where they have since made their home and where Dr. Day has practiced for the past twenty-seven years.

Dr. Nancy Fleming, a physician and surgeon in Des Moines for many years, died at her home, 1181 Fifth street, July 29 after a brief illness.

Dr. Fleming was born in Connersville, Indiana, in 1844, but had lived in Iowa since she was a small child.

## BOOK REVIEWS

### PRACTICAL INFANT FEEDING

By Lewis Webb Hill, M.D., Junior Assistant Physician to the Children's Hospital, Boston; Assistant in Pediatrics, Harvard Medical School, Octavo of 483 Pages Illustrated. W. B. Saunders Company, 1922. Cloth \$5.00 Net.

The interest in infant feeding has grown rapidly in the last few years. There are numerous reasons for this interest, the most important of which no doubt, is the great value placed on infant life on the part of physicians, and the general sentiment expressed by the public in the form of child welfare.

Dr. Hill has undertaken to place before the profession a practical work on infant feeding in which he states "without being scientific, without being tiresome." The first chapter is devoted to the physiology and pathology of digestion and of nutrition. Chapter two explains how to interpret infant stools which he regards as of fundamental importance in determining questions in relation to food and digestion. Human milk and breast feeding occupy two chapters. It is stated that if all babies could be breast fed, deaths would be 60 per cent less; an immense saving of life. An interesting chapter is devoted to the development of Modern Artificial Feeding, after which comes a discussion of the multitude of substitutes, first of which comes cow's milk and modification of cow's milk; much detail is given to this subject in view of the fact that the thought of cow's milk comes first after breast feeding. The difficulty of cow's milk in certain cases renders some other form of infant diet necessary so that certain special preparations must be considered, which requires much serious thought. To meet the difficulties under this head a considerable amount of scientific consideration and estimation of a balanced diet is given to meet the nutritive requirements of the infant. This is carefully set forth in the chapters devoted to the subject of considerable interest and difficulty and receives much consideration.

The management of Diarrheal Diseases both as to care of diet and medicine treatment, and also of nutritional diseases are fully considered. On reading this book we find many questions in relation to infant feeding that are full of interest to the family physician and helpful in determining a course of feeding and treatment for the infant who is deprived of the advantages of breast feeding.

### ABDOMINAL PAIN

By Professor Norbert Ortner, Chief of the Second Medical Clinic at the University of Vienna. Authorized Translation. By William A. Brams, M.D., Formerly Lieutenant-Commander, Medical Corps, U. S. N., and Dr. Alfred P. Luger, First Assistant, Second Medical Clinic University of Vienna. Reiman Company, 141-145 West 36th St., New York.

We recognize in abdominal pain one of the most important symptoms in abdominal disease and injury. The sudden appearance of abdominal pain always invites our serious attention to possible abdominal conditions. We are not always able to determine the condition from the pain alone, but it is a danger symptom which attracts our attention and leads to investigation as to the cause of the pain.

The author furnishes headings for a consideration of the significance of the pain. Intense diffuse abdominal pain with shock, as illustrated by perforation of stomach, bladder, ureter, fallopian tube, uterus, gall-bladder. Severe, diffuse abdominal pain, with shock and ileus. Following is a discussion of asso-



ciated symptoms and conditions which may lead to a diagnosis. Mild, diffuse, colicky pains; mild, diffuse, abdominal pain not colicky in nature. The first as illustrated by mild appendicitis, typhoid fever, dyspepsia, intestinal parasites, etc.; the second by tuberculous peritonitis, diffuse carcinomatous peritonitis, etc.

Localized abdominal pain, epigastralgia or stomach cramps, as gastric ulcer pyloric stenosis, gastroptosis, arteriosclerosis, pulmonary tuberculosis, epigastric pains, cholelithiasis, duodenal ulcer and many similar conditions. While pain is the leading factor there are numerous associated symptoms that must be taken into account, and these the author evaluates in arriving at a conclusion as to the cause of the pain symptom.

Acute, epigastric pains of short duration which are not cramp-like in nature, as pancreatic affections, esophagus. Chronic continuous epigastralgia, liver, gall-bladder, tabes and general neurosis. Colicky pains in the region of the gall-bladder and right hypochondrium, as liver colic, stone, cholecystitis, cholangitis, thrombosis of mesenteric vein, pancreas, appendicitis, gall-stone. Diffuse pain, over the right hypochondrium, hepatitis, intercostal neuralgia. Colic pains in the ileocecal region; intestinal colic, kidney colic. Acute pain in the ileocecal region; extrauterine pregnancy, acute pericystitis, tuberculous ulcer of cecum, tuberculous peritonitis, typhoid fever and other conditions.

Acute pains in the left iliac region; as perisigmoiditis, mesenteric artery, peritoneal adhesions. Lumbar pains; renal colics; hematuria, hydronephrosis, disease of the ureter.

We have thus presented an outline of the contents of this interesting book which has taken up the important symptoms, pain, character and location, and has grouped about this symptom associated symptoms, x-ray examinations and other conditions which may lead to a diagnosis.

#### THE THYROID GLAND

Clinics of George W. Crile, M.D. and Associates at the Cleveland Clinics. Octavo of 228 Pages with 106 Illustrations. W. B. Saunders Company, 1922. Cloth \$5.00 Net.

Dr. Crile's work on the thyroid gland is so well known that it is only necessary to announce that a book has been prepared setting forth his latest views. It is rare that a book comes to us of equal artistic attractiveness; the paper, the print and all the mechanical work is of the highest order, including the illustrations. We are presented first, with the Function of the Thyroid, by Dr. Crile; then, A Physical Interpretation of the Role of the Adrenals in Exophthalmic Goitre, Partial Hyperthyroidism, Diseases and Pathology of the Thyroid Gland, by Allen Graham. The Relation between Diseases of the Thyroid Gland and Laryngeal Function, by Justin M. Waugh. Differential Diagnosis of Diseases of the Thyroid Gland, by John Phillips. Simple Goitre, Colloid

Goitre, Adenoma of the Thyroid, Exophthalmic Goitre, Changes in the Thyroid Gland and numerous other conditions.

Adrenalin Sensitization Test for Hyperthyroidism, by Robert S. Dinsmore. A Scrum Test for Exophthalmic Goitre, by Frank D'Houblcr. The role played by the radiologist in the diagnosis of goitre, including methods of examination with beautiful radiographic plates. Dr. Chester D. Christie presents a discussion on Basal Metabolism in Exophthalmic Goitre based on 826 measurements on 472 patients, 43 per cent showed an increase in metabolism of more than 15 per cent above the normal. Christie believes that basal metabolism measurements are of the greatest value in the diagnosis of disease referable to the thyroid gland, especially in reference to borderline cases where the classical signs are not sufficient to warrant a definite diagnosis. He expresses the opinion that, "Basal metabolism estimates during the course of treatment of patients with exophthalmic goitre, provides a very accurate index to the progress of the disease." This discussion is extremely interesting and important.

Dr. O. P. Kimball presents a goitre survey under the head of The Prevention of Simple Goitre in Man, which is of suggestive value in determining the cause of the disease. Dr. George W. Crile takes up the question of Surgery vs. X-ray in the Treatment of Hyperthyroidism. A survey of 208 articles shows a great diversity of opinion. Means and Aub of the Massachusetts General Hospital believe that the results of x-ray are as good as with surgery. Dr. C. H. Mayo believes that with x-ray treatment remissions may occur just as remission occurs without treatment and further states, "Our experience has been failure or but temporary benefit." Dr. Crile's conclusions are that, "surgical treatment of hyperthyroidism combined with physiologic rest yields the most favorable results."

The remaining chapters are devoted to Preoperative Management, Operation Room Arrangements, Anesthesia and Operative Technique. In this volume may be found discussions of the latest questions in relation to goitre.

#### SURGICAL AND MECHANICAL TREATMENT OF PERIPHERAL NERVES

By Byron Stookey, M.D., Associated in Neurology, Columbia University; Assistant Professor of Neurosurgery, New York Post-Graduate Medical School and Hospital. With a Chapter on Nerve Degeneration and Regeneration by G. Carl Huber, M.D., Professor of Anatomy, University of Michigan. Octavo Volume of 475 Pages with 217 Illustrations, 8 in Colors and 20 Charts. W. B. Saunders Company, 1922. Cloth, \$10.00 Net.

This exceedingly important work should find a place in the library of every surgeon, for the reason that this is an important and difficult branch of surgery, and the results of neurosurgery are so depend-

ent on a proper conception of anatomical and physiological connections and operative technique, that a close study of the factors involved is essential to reasonable success.

The first chapter is devoted to the anatomy of the spinal nerves with illustrations followed by a chapter on nerve degeneration and regeneration including a historical sketch of the work of different experimenters.

In chapter three, under the head of Methods of Nerve Repair, the author undertakes to establish a standardization of terms employed to save confusion in nerve operations, thus to avoid unscientific methods of nerve connections.

Referring in chapter four to direct nerve-muscle implantation, it is stated that if the central end of a motor nerve is implanted into a muscle whose nerve has been cut, it will form end plates and re-establish motor function. It is also stated that this method is of limited application, and applies to only a single nerve-muscle implantation. The chapter is devoted to this subject. Another chapter relates to Nerve Liberation. Chapter seven and eight consider the Technique of Nerve Suture, and the Indications for the Operation which are the important practical chapters of the book. Following is a consideration of the Mechanical Treatment, necessary to securing the best results.

After considering the important anatomical, physiological and scientific facts, and the technique of operation and indications for operation, each important nerve is considered in all its detail. The method to be employed, the things to be avoided and the results reasonably to be expected. As a means of carrying out the operation treatment, excellent cuts are prepared which will be of the greatest help to the operator who may not have all the anatomical facts at hand. Successful nerve surgery is a difficult branch and before taking up an operation it would be of the greatest value to the operator to consult the methods and technique as laid down in this book. The chapters have been worked out with great care and skill based on much study and experience.

#### SYPHILIS IN ITS RELATION TO PREGNANCY AND INFANT DEATH

By Amand Routh; Health & Empire, Vol. I, No. 4, March, 1922.

It is roughly estimated that from 16 to 20 per cent of antenatal deaths and early neonatal deaths are due primarily to syphilis. Taking the lower estimate of 16 per cent, it would mean that in 1920 the deaths from syphilis during pregnancy and the first week of life would have been over 15,000 in England and Wales.

Dr. Routh recommends the following problems for consideration:

1. Notification of venereal disease, associated with continuous treatment until cured.
2. Confidential death certificates, or alternatively

compulsory life insurance of both partners before marriage.

3. Registration of stillbirths.

4. More facilities for research as regards antenatal deaths, and for examinations of all expelled products of conception.

#### TUBERCULOSIS IN INFANCY AND CHILDHOOD

Lectures Delivered at the Children's Hospital, Philadelphia, Under the Auspices of the Philadelphia Pediatric Society, by J. Claxton Gittings, M.D., Frank Crozier Knowles, M.D., and Astley P. C. Ashhurst, M.D., with 23 Illustrations. J. B. Lippincott Co., 1922, Philadelphia and London. Price \$5.00.

These lectures by distinguished professors in the University of Pennsylvania are published in a volume of 273 pages. The book is divided into ten chapters. The first chapter deals with General Considerations, Historical, Death Rate, Types of Bacilli, Childhood Infection, Age Incidence of Fatal Tuberculosis, Tuberculosis Infection, Immunity, and other considerations of a general character.

Chapter two relates to the general principles of diagnosis. Chapter three considers Tuberculosis of the Cervical Nodes. This chapter includes the various tests generally employed in the diagnosis of tuberculosis. In closing the chapter, the treatment of tuberculous glands is set forth. Chapter four takes up Tuberculosis of the Upper Respiratory Tract. We are informed in the first place that "Tuberculosis of the upper respiratory tract is exceedingly rare in children." Reaching the lungs particular stress is placed on the method of examination and the elements of error are pointed out. We are also informed that "tuberculous bronchitis is encountered most frequently in infants and young children under the age of five," a fact of great importance in considering bronchial troubles in young children.

Chapter five points out in considerable detail, tuberculosis of the Bronchial Nodes, Pleura and Heart, and in chapter six, Tuberculosis of the Skin in Childhood, by Dr. Frank Crozier Knowles. Chapter seven, Tuberculosis of the Abdominal Cavity and the Genito Urinary Tract. The frequency of these involvements, and the importance of early diagnosis warns us to study this chapter with much care, if we hope to save our patients.

Chapter eight deals with Tuberculous Bone and Joint Disease, by Dr. Ashhurst, is of great importance but our familiarity with this subject lessens the danger of error in diagnosis, but there are many failures in early diagnosis.

Chapter nine considers Miliary and Generalized Tuberculosis. A most trying form of the disease which so often leads to a fatal result and demands

(Continued on Advertising Page xvi)



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## BOOK REVIEWS

(Continued from Page 426)

are early diagnosis and decision which may be reached by spinal puncture. Chapter ten, Treatment; the hope from treatment rests essentially on an early diagnosis. We are familiar with the general line of treatment after a diagnosis is made, our errors are generally errors of diagnosis. The lectures are exceedingly interesting, practical and helpful.

## NEW AND NON-OFFICIAL REMEDIES

During June the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

Borcherdt Malt Extract Co.:

Borcherdt's Malt Cod Liver Oil and Phosphorus.

Intra Products Co.:

Ven Sterile Solution Procaine 0.5 per cent.

Ven Sterile Solution Procaine 2.0 per cent.

Ven Sterile Solution Procaine 5.0 per cent.

Lederle Antitoxin Laboratories:

Pituitary Extract—Lederle (Obstetrical).

Pituitary Extract—Lederle (Surgical).

Parke, Davis and Co.:

Diphtheria Antitoxin piston syringe containers.

Antitetanic Serum piston syringe containers.

Antigonococcic Serum 12 Cc. bulbs.

Antistreptococcic Serum 20 Cc. piston syringe container.

Antistreptococcic Serum 20 Cc. piston syringe container.

Anti-Anthrax Serum.

Antimeningococcic Serum.

Diphtheria Toxin—Antitoxin Mixture.

Tuberculin B. F. (Bovine).

Gonococcus Vaccine 1 Cc. bulbs.

Gonococcus Vaccine 1 Cc. syringe.

Gonococcus Vaccine 5 Cc. bulb.

Gonococcus Vaccine 20 Cc. bulb.

Erysipelas and Prodigiosus Toxins (Coley) 1 Cc. bulb.

Erysipelas and Prodigiosus Toxins (Coley) 15 Cc. bulb.

## NEW AND NON-OFFICIAL REMEDIES

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

The Abbott Laboratories:

Neocinchophen—Abbott Tablets 5 grains.

Louis Hoos:

Hoos Albumin Milk.

Mallinckrodt Chemical Works:

Benzyl Benzoate—M. C. W.

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## MEDICAL IDEALS\*

EVAN S. EVANS, M.D., Grinnell

The beginnings of our profession are shrouded in mystery, and mythology, fable and folklore. The earliest knowledge we have of our professional forebears is indissolubly blended with a fog of myths, superstitions and folktales, most often, perhaps, relating to the priestcraft, to the sorcerers, and to the workers of magic. The earliest physicians of whom we have at all authentic records, were also priests, oracles and holy men. In those times the function of the physicians was quite as often the confounding of an enemy, the propitiations of some devil or deity, or the procuring of the consummation of some enterprise, as the healing of the sick, which was frequently considered to be but the casting out of devils. The measures used to combat disease were usually chosen by reason of some fancied relation between the remedy chosen and the deity involved, as revealed by observation of the stars, the entrails of some animal killed according to specific rites. The augurs, the oracles, the ascendancy of conjugation of heavenly bodies determined the selection of therapeutic measures.

A little later in the history of the world, certain men whose names still live, added the habit of observation to the other attributes of the professional healer, and it became the custom to give close attention to the various manifestations of disease, and to depend somewhat upon these to furnish indications for the employment of therapeutic measures.

Hippocrates was one of the earliest and certainly the best known of the men who first blended reason and circumstance in the care of the sick. This custom has grown among the Disciples of Esculapius with equal pace as the mental power and knowledge of the world has unfolded.

During the middle ages and down into the century the therapeutic armamentarium was furnished by the traditions of the past. Many and

noisome are the concoctions used as medicine even during the last fifty years, chosen at some time in the dim and dusty past because of some fabled relation or affinity to some god or spirit or devil; or used because of some dogmatic dictum laid down ages ago by some venerated philosopher-physician of the hazy past.

In view of the state of the world's knowledge of the natural sciences for hundreds of years, it is difficult to believe that the actual practical benefit derived from the ministrations of physicians totaled very considerable. Their therapeutic measures were purely empirical, usually not too well governed by observation of clinical signs, and, being practically unsupported by more than vague theories as to the structure and functions of the various organs and the changes wrought by disease, were all too frequently determined by imaginary indications or by the exigencies of collateral circumstance. It would seem reasonable then to suppose that charlatanry was rife during those times; and excursions into the by-paths of history reveal the fact that it was indeed so. There have always been, and we pray God there may always be, earnest seekers after truth in the ranks of the medical profession. Hippocrates, Ambrose Pare, Harvey, John Hunter, Laennec, and Virchow will always stand as the shining lights of their times. But the rank and file of the profession, grounded, when grounded at all, only in the traditions of the guild and with an abysmal ignorance of the laws of natural science, were in the light of today, the rankest charlatans.

But even the charlatans have their public function. Though usually devoid of skill or knowledge necessary to really cure or prevent disease or ameliorate suffering, even a charlatan supplies to his patient a measure of moral support. He is a leaning post, a mental defence against the terror of an unkind future. True he may really avail nothing in the presence of disaster but he has dulled the sharp edge of anticipation; he has supplied a moral confidence in an auspicious outcome; and even though the pestilence that walk-

\*Address of Chairman, Section on Medicine.

eth at noonday and the terror that flieth by night ultimately prevail, the poor victim is partially anesthetized by the comfortable hope which springs from his dependence upon his physician—be he quack or savant.

This then is our heritage from the past. Material things aside, the fact that the profession has fulfilled the function of supplying moral confidence to the afflicted has been the justification through the ages, of the survival of the craft.

On the material side the additions to the world's knowledge made in the last 150 years, have given to us ways and means to add in a practical way, to our usefulness. We are able to really cure many diseases, to absolutely prevent many more, and to ameliorate the suffering incumbent on most of them. Our information concerning the laws of nature, the nature of substances, and the properties of matter is the foundation for this ability of which we are so proud. And as a result we now have a two-fold function in the affairs of mankind. We are now bound not only to strengthen the patient's hope and confidence, but also to utilize to the greatest reasonable extent the world's knowledge of nature for the physical relief of the patient, his cure, and the protection of his associates from similar calamities.

The practice of medicine is today, as always, founded upon the personal relation between the physician and his patient. The patient chooses his physician on personal grounds. He chooses him because he thinks the physician well versed, skilled, and adept but he thinks these things because of the personal impression the physician has made on him or on his friends. The average person has absolutely no criterion by which to judge of the physician's skill. He has no available knowledge with which to gauge the relative ability of the practitioners of his vicinity, and actually his choice is made on grounds of personal taste that have a remote, if any, bearing upon the qualifications of the practitioner. Any attempt to arrive at a conclusion by comparison of results of treatment is apt to lead to serious error by reason of the overwhelming preponderance of self-limited disease, by the variations in virulence of individual infections, by individual idiosyncrasies, and by reason of anomalous circumstance of which prevision cannot be had.

Practically any practitioner who can hold the confidence of his patient fulfills the first specification of the duty of the profession, i. e., that of furnishing a moral bolster against the mental pain of uncertainty. However, in order that the second specification shall be observed, it is necessary that the practitioner be well versed and reason-

able skilled in the co-ordination of the facts and in their utilization to the end that disaster be prevented and disease abolished, and that he exert the necessary effort to bring about the desired result.

This may seem to be very trite and commonplace statement to make but when we pause and reflect that in the not very remote past the physician was little more than a speculator in the phenomena of disease; whose most important if not entire function was one of morale, we may consider it not entirely unjustified.

Of late years since the profession has had a larger working knowledge of scientific things, the labor of acquiring an adequate equipment of information and skill has seemed unsurmountable to many aspirants for professional standing, and the cults of osteopathy and chiropractic have sprung up. The ranks of these cults are filled by men who are as competent as are we to enter into the personal relation with their patients. They are as effective as we in supplying moral confidence to a trembling soul. They are fully as efficient from a scientific point of view as were most of our professional ancestors of seventy years ago, for they labored under the same handicap of inaccurate and inadequate conceptions of nature and nature's laws. However, they find, as do we, the overwhelming incidence of self-limited disease, and their good results are apt to add up to as imposing a total as will some of ours. They, too, have discovered that the man on the street has no yard stick by which to correctly gauge their value from the practical point of view, and they have appropriated and improved upon most of the classical tricks of stage craft that have been handed down from the ages for the insurance of preference of the one physician over the other. Their existence developed out of the increasing difficulty of obtaining a professional education in medicine and it will be perpetuated, either in the form of the present cults, or others similarly founded, by reason of the fact that they provide a short cut to professional standing, and because the average man is a creature of circumstance.

The traditions of the practice of the past, our own experiences of the fruitfulness of the personal relation, and the ever present example of the prosperous irregular, have combined to bear many of us away from the goal of our ideals. We have all read and heard of the fruitless struggles of our professional grandfathers against cholera, diphtheria, yellow fever, etc., and have known of the love and reverence with which they were held in the minds of their patients. With



what wonderful attributes were they not credited by their clientele? And yet we know that they were ignorant of the essential factors of these things although they were highly successful practitioners. We all have seen our osteopathic and chiropractic friends, busy, prosperous, respected and valued citizens of their communities, rated highly by their neighbors and by their patients, credited with skill and acumen which they do not possess, seemingly attaining all the rewards of a successful career. We all know somewhere among our acquaintances of professional brethren whose following of patients and friends is all out of proportion to their scientific attainments; who are either poorly prepared to furnish material aid to their patients or who are too lazy or too hurried to do so. We have all seen and pondered these things, and the realization of the effectiveness of the personal relation has sometimes acted as a soporific to our consciences to the end that we have directed our efforts to the cultivation of the personal side of our profession to the neglect of the scientific side.

Our profession, any profession, in order to continue to exist, must justify its existence by the performance of some necessary function in the body politic. If our profession is to in its old sphere and without the fulfillment of the newer ideal of more practical usefulness, it must compete with the irregular cults who are content with attaining only the personal relation. If we are to justify our existence as a separate and distinct profession we must acquiesce in the new duty and in the higher standard of rendering actual material assistance to the afflicted. And we must do it as nearly unanimously as may be. It is not enough that here and there shall be one outstanding figure, a modern John Hunter or Laennec, but we, the rank and file of the profession we, too, must all of us be earnest searchers after truth. We must be diligent and accurate in our observations, not swayed in our judgments by our imagination, by our desires or by our fears. We must be persistent and faithful in our pursuit of new data, and added knowledge.

We men of the medical profession have a responsibility that is no light one. Individually we are frequently grievously at fault. We are too often lazy, or hasty. We are sometimes dishonest with ourselves. We are careless of the patient's real interest in our desire to keep our hands clean. And these things are unworthy of us. We have the knowledge and the skill if we choose to make the necessary effort to use it; but too many of us are satisfied to allow the per-

sonal element to be the predominant element in our practice.

The movement which is now under way in the profession which resulted a short time ago in the standardization of medical schools, and is now being directed to the standardization of hospitals, is of colossal significance. There are those of us who sniffle and gag at what they choose to call "dictation" and "interference" with their rights and prerogatives, but it would seem that the majority of right thinking men are gladly falling in line. The medical profession has a double duty—to assist the morale, and to combat disease, and the awakening conscience of the profession is coming to see that any personal interest of any individual physician which is in conflict with the complete performance of that duty has no standing. Every physician has a responsibility to his patients against which the physician has no contravening rights or privileges. The sooner this idea is universally accepted, the sooner the profession of medicine will attain its widest usefulness, and when that happy day comes those of us who accentuate unduly the personal relation to the neglect of the scientific factor in our practice, who carp and whine about tyranny, who obstruct assiduously by their efforts and influence the progress of the profession, will drop out of the procession and fall back to the ranks of the osteopaths and chiropractors, where they belong.

The means and methods of attaining the most effective fulfillment of our double duty are obvious. The personal relation is one with which we are all familiar and needs but passing mention here. On the scientific side let us emphasize some details that seem to be fundamental as a basis for our efforts. In the first place I bespeak a thorough examination of the patient. I appreciate that many times personal considerations render this inconvenient in cases of apparently trivial nature. A rectal examination in a case of acute bronchitis in a youth may well result in no added information; but in men of "prostatic age" it may frequently have a bearing on the basic pathology—distended overflowing bladder—renal and cardiac insufficiency—passive congestion of the lung. Let us be careful and thorough in our examinations.

Let us keep notes on our cases—the fuller the better. Notes of a case with laboratory records are invaluable in the future handling of the individual. It is tedious and bothersome but it pays.

When we take our annual jaunt to the city clinics, let us pay more attention to what goes on in the morgue, and the pathology laboratory. If

there is any one phase of medicine in which we are short it is in our appreciation of pathology.

Let us ask for autopsies on those of our patients who die. The infrequency of autopsies in rural communities is due largely to the infrequency of requests on the part of the doctor. I understand, of course, that there are a few of us who would not especially care to do an autopsy unless they got paid for it—and then not with any considerable degree of understanding. It is a boggy among doctors, that people are hostile to the idea of autopsies. A trial will demonstrate that this is not true to any overwhelming extent. In one rural community, about half the requests for autopsy have been granted, since the doctors began to ask for them.

Let us use the laboratory. The laboratory is not the open sesame to diagnosis but it is a great corroborator and guide. Systematic laboratory work in our practice in the simpler phases blood cytology, chemistry and serology, the simpler bacteriologic procedures, complete urinalyses and the histological examination of tissues greatly assist the doctor in keeping on the right track in his diagnoses and in checking up on his treatment. But we can not make our diagnoses on laboratory reports alone and we must learn to make the necessary allowance for inaccurate and unusual reports. "Mix brains with your colors" said Whistler to the young artist who inquired how he did it. Mix brains with your laboratory reports.

Let us keep up on our reading. It is entirely possible to arrange a group of current medical periodicals which will adequately cover the field with original articles, and with abstracts. Mark the titles which interest you and have the office girl file them in a card index. Don't destroy the old magazines. Have them bound, and refer to them often. Set aside an hour a day to read—and do it religiously.

It all simmers down to work. Work unceasingly and methodic. Let us improve every opportunity to add to our experience by more careful examinations, by more frequent autopsies, by laboratory work, and by systematic reading. The rewards as regards our following of patients will depend, as in the past, upon our personality, but the rewards of doing our work well, and of our full duty done will ultimately prove to be far the richer.

## ACUTE PERICHONDritis OF LARYNX WITH REPORT OF CASE\*

FRANK A. WILL, M.D., Des Moines

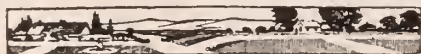
Acute perichondritis of the laryngeal cartilages is a comparatively rare condition generally occurring secondarily to some of the more severe systemic infections; for example tuberculosis, typhoid, syphilis, malignant disease, pyemia, diphtheria, typhus, erysipelas, pneumonia, small-pox, actinomycosis and glanders. It may also be of traumatic origin, the result of blows, stab wounds or burns in the region of the larynx, or the result of foreign bodies in the larynx or esophagus. It is also sometimes seen in elderly bedridden subjects and is said to be the result of pressure by the vertebrae on the cricoid due to the recumbent position.

Acute perichondritis is practically always of bacterial origin the mode of infection being by way of the blood and lymph streams, preceded of course by an abrasion of the skin externally or the mucous membrane internally. This disease is so frequently secondary to tuberculosis, syphilis, cancer and typhoid that any extensive work on the subject requires a detailed study of these diseases.

The pathology does not differ to any extent from the pathology of acute perichondritis in other parts of the body: It is characterized by inflammation, swelling, edema and resolution or, as is more usual, by pus formation. The pus separates the perichondrium from the cartilage following the line of least resistance until it may finally point at some spot more or less remote from its place of origin.

The cartilage itself may be invaded and eventually slough resulting in laryngeal deformity or stenosis. The abscess may point internally and discharge into the larynx or trachea or more rarely into the pharynx or esophagus. Sometimes the abscess points externally discharging at some point in the neck. The arytenoid cartilage is the one most affected probably because it is a favorite site for tuberculous ulceration.

The symptoms of acute perichondritis are generally ushered in with a feeling of malaise, localized pain in the larynx and a moderate rise of temperature. The local symptoms are by no means characteristic and very largely depend on the extent of the infection and the particular cartilage involved. As the disease progresses the swelling and edema increase, the voice becomes



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hoarse and there is a feeling of impending suffocation, which gives to the patient's appearance a particular look of anxiety. In involvement of the arytenoids phonation and deglutition are painful. If the cricoid is affected the swelling may involve the ary-epiglottic fold, the posterior laryngeal wall, the external surface of the larynx or the subglottic region. Pain increased by external manipulation, dyspnoea and loss of phonation are the principal symptoms. When the thyroid cartilage is involved on its internal surface a swelling beneath the anterior commissure is liable to occur. If the external surface is affected the pus will, of course, tend to point outwards resulting in abscess of the neck. The principal symptom is interference with phonation. The voice however is never entirely lost though it may become very hoarse.

In spite of the fact that there are very few diseases of the larynx that give rise to similar symptoms the diagnosis is often difficult. From the fact that the onset is sudden and accompanied by fever we know that we have an acute inflammatory process to deal with which brings to mind two other acute conditions with similar symptoms namely croupous laryngitis and acute submucous laryngitis. In croupous laryngitis we generally have an exudate which of itself is sufficient to make the differentiation, also the febrile disturbance is much more severe. In submucous laryngitis we get a symmetrical swelling of the mucous membrane on both sides of the larynx, while in perichondritis the swelling is usually confined to one side and is irregular and asymmetrical.

Another condition which might be confused with perichondritis is acute inflammation of the thyroid gland. I will quote a case reported by A. Bruggeman in the *Deutsche Medicinische Wochenschrift*, the abstract of which appeared in the *Journal American Medical Association*, July, 1920. "Report of a case of acute laryngeal perichondritis in which edematous swellings appeared on the outside of the throat simulating the picture of acute thyroiditis. Sensitiveness to pressure was, however, confined to the larynx, which rules out thyroiditis. Pressure symptoms elicited in the thyroid were doubtless due to the fact that in pressing on the thyroid a certain amount of pressure is brought to bear on the larynx."

The diagnosis must be made by exclusion of the acute febrile diseases together with the laryngoscopic picture. In involvement of the cricoid a distinct irregular swelling is seen beneath the cords encroaching upon the breathing space and the movements of the larynx are interfered with on the affected side. If the arytenoid is involved,

we may be called upon to differentiate this condition from tuberculosis of that region. If tuberculous, the lesion is generally bilateral and the appearance of acute inflammation is not so pronounced. Involvement of the inner surface of the thyroid cartilage shows a swelling projecting into the larynx in the vicinity of the ventricular band hiding the true cord and encroaching to some extent on the breathing space. Involvement of the external surface of the thyroid cartilage is much easier to diagnose, as added to the local and general symptoms we have the information which can be gained by inspection and palpation.

The prognosis depends largely on the location, extent and severity of the infection. If the abscess is small and due to its location, does not spread to any extent, or if it is of the type that points externally, the prognosis is good, but if the destruction of tissue is considerable, going on to necrosis and exfoliation the prognosis is extremely grave. The prognosis should always be guarded, as the affection is apt to be long drawn out, often resulting in greatly lowered vitality which makes the patient an easy prey for septic pneumonia and other infections. In the graver cases there are permanent changes in the voice, and many times a troublesome dyspnoea resulting from a laryngeal stenosis.

*Treatment*—If seen early, the usual treatment for a rather severe acute laryngitis is instituted namely, brisk catharsis, rest in bed, use of voice prohibited, sometimes local blood letting, etc. If the dysphagia is marked rectal feeding may be indicated. If cough is troublesome inhalations of comp. tr. of benzoin. When abscess formation is seen to be inevitable hot fomentations are indicated with free incision under local anesthesia as soon as abscess becomes localized. If there is much edema a spray of cocaine and adrenalin may prevent alarming symptoms. Most writers advise the use of potassium iodide in this disease whether it be of luetic origin or not. The necessary instruments for a rapid tracheotomy should always be close at hand. In looking over a number of case reports one has the feeling that if the necessity for tracheotomy could have been anticipated many lives might have been saved. It is, therefore, essential in handling this disease that tracheotomy be not too long deferred.

In 1905 Jackson of Pittsburg made a study of 360 cases of laryngeal disease occurring during the course or as a sequela of typhoid. In this series perichondritis occurred seventeen times. It is interesting to note here that perichondritis in typhoid was first called to our attention by Bayle in 1808.

Mayer gives the following statistics from Hansberg's text book: One hundred and twenty-three cases were reported between 1888 and 1910. In thirty-six of these cases tracheotomy was performed with recovery of twenty-two cases; one improved, twelve died and in one the outcome was not recorded. Laryngo-fissure was done in ten cases with complete recovery in five cases, improvement in four and death in one. Intubation was done seven times with two recoveries and five deaths. Endo-laryngeal incision was made in three cases with two recoveries and one unreported result. External incision was made in three cases with three recoveries. Nothing was done in twenty-nine cases, the result being five recoveries and twenty-four deaths.

Mayer gives the results of his personal experience as follows: Eleven cases were observed between 1913 and 1918. Results of treatment:

Conservative treatment, 2 cases—recovery, 2 cases.  
External incision, 2 cases—recovery, 2 cases.  
Tracheotomy, 5 cases—recovery, 3 cases; deaths, 2.  
Laryngo-fissure, 2 cases—recovery, 2 cases.

The number of cases reported in the foregoing statistics are not of sufficient number to draw definite conclusions as to the best mode of treatment. It is clear, however, that most cases sooner or later come to operation, and that the choice of procedure depends entirely on the individual case.

### Case Report

Female, age sixty-two. Family history negative. Personal history, always in good health until eight years ago when she had an attack of cerebro-spinal meningitis which left her paralyzed in right arm and leg and completely deaf in both ears. The paralysis has completely disappeared and the deafness has shown a very slow improvement.

February 14, 1921. First noticed that she was hoarse and throat felt raw, called family physician who treated throat.

February 15, 1921. Left for California—on arrival was coughing a great deal, had chilly sensations and felt very badly. Few days later noticed that neck, especially in region of larynx, was considerably swollen, and that breathing when lying down was difficult. There was no improvement under treatment and she decided to return home. First came under my observation March first, voice husky, incessant cough with expectoration of sticky mucus, temperature 100, larynx and trachea much thickened with considerable swelling of surrounding soft tissues. Examination with laryngoscope showed vocal cords normal and movements unimpeded. Mucous membrane moderately inflamed, no particular swelling at any point.

March 2. Lungs examined by Dr. Peck, nothing found except a few bronchial rales.

March 3. Sent to hospital. Treatment—rest in bed, cold compresses, inhalations comp. tr. benzoin, codeine and heroin for cough.

March 5, 6, 7, 8. Condition about same, cough improved, swelling slightly less. Wassermann negative, sputum negative. Blood count, reds 4,500,000, whites 17,000. Septic temperature never over 101.4.

March 10. Greatly improved, swelling much reduced, slight cough, temperature 99.

March 11. All symptoms aggravated. Temperature 101.4. Distinct area of redness over cricoid in median line and over thyroid on right side.

March 13. Incision decided upon unless improved in few days.

March 15. Swelling more marked. Apparent fluctuation over cricoid in median line. Incision made over cricoid down to cartilage, under local anesthesia. Much infiltration but no pus. Another incision made over thyroid on right side and drainage tube inserted connecting two incisions.

March 16, 17, 18, 19. No improvement. Still running septic temperature.

March 21. Marked swelling over thyroid on left side. With fluctuation.

March 23. Incision made over thyroid on left side. About two tablespoons of pus evacuated.

March 24. Swelling much reduced. Can feel bare cartilage with probe. Pus pocket runs backward on left side about one and one-half inch. From this time on patient steadily improved though there still remains some thickening around cricoid and thyroid.

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## THE THORACOSCOPY AND ITS PRACTICAL IMPORTANCE, ESPECIALLY IN THE SURGERY OF THE CHEST\*

H. C. JACOBÆUS, M.D., Stockholm, Sweden

Since about ten years I have occupied myself with the endoscopy of the serous cavities, peritoneum and pleuræ. At first I was only engaged with the diagnostical advantages which could be gained by such a method. At a case of ascites, after tapping and replacing by air. I could then have performed endoscopie and get a clear and perspicuous picture of the abdominal organs. There was thus no difficulty with regard to the liver to diagnose liver cirrhosis, malign tumor, Picks dis-

\*Read before Tri-State District Medical Association, Milwaukee, Wisconsin, November 17, 1921.



ease, liver syphilis, a. s. o. Further at carcinosis and tuberculosis peritonei I could indicate changes characteristic for these diseases. After performing endoscopy, and laparoscopy, to begin with only on patients with ascites I have the last years to a larger extent also carried out examination on patients without ascites and thereby has the sphere of the method considerably widened. I have further combined laparoscopy with simultaneous x-ray examination of the abdominal organs with the air still left in the abdominal cavity. This latter according to Long, Weber and others. Both these methods of examination complement each other in a very successful way, specially with regard to the processes of disease in the liver and spleen and by formations of adhesions in the abdominal cavity. It is not yet possible to judge how great a value in practical respect these methods may obtain.

Without doubt the predominant interest by these endoscopies centers round the examination of the pleural cavities, the so-called thoracoscopy. With regard to the chest cavity we have, as we know, nothing corresponding to the test laparotomy of the abdominal cavity. Further the thoracoscopy is so simple a method that it can be performed without inconvenience at every exudative pleurisy which is subject to a thoracentesis. The ocular examination of the pleural surfaces is in most cases relatively complete. In cases of s.c. idiopathic pleurisy I have also succeeded in most of them to find distinct tubercular noduli. For the differential diagnosis between tumors and pleurisy of other origin the thoracoscopy is of no small value. After some practice it is at least possible with some certainty to differentiate between tumor metastases and tubercular changes. In doubtful cases one can by test-excision under guidance of the thoracoscopy decide the nature of the pleurisy in the special case. Even solid intrathoracical tumors can be observed on thoracoscopy and their relations to neighboring organs, the lung, the thorax wall a.s.o. can much clearer be determined than by any other method. By this an evident practical use for an intended operation is gained as we will see further on. This is the principal use in the great surgery.

The second, and from practical point of view, most important field for the use of the thoracoscopy are the surgical operations which can be performed directly under guidance of this method and which I will now describe. On thoracoscopy at pneumothorax treatment of lung tuberculosis, a specially fine picture of existing string or membrane-like adhesions between lung and thorax wall is obtained. This caused me to try to work

out a method under guidance of the thoracoscopy to remove such adhesions impeding the treatment. It is a well known experience at the pneumothorax treatment of lung tuberculosis, that a single string-shaped adhesion which attaches the lung to the thorax wall and thereby prevents a cavity to collapse can cause the failure of the whole treatment. A recently published paper by Gravesen from Prof. Saugmann's sanatorium contains the following tables which prove the injurious results from these adhesions.

I. Cases with complete pneumothorax without adhesions. (Three to thirteen years after being discharged.)

Able to work.....	23	=	70.2%
Not able to work from tuberculosis.....	1	=	2.1%
Died from tuberculosis.....	11	=	23.4%
Died from other causes.....	1	=	2.1%
Unknown .....	1	=	2.1%
<hr/>			
Total.....	37		

II. Cases with complete pneumothorax but with localized, extended adhesions.

Able to work.....	14	=	33⅓%
Died from tuberculosis.....	28	=	66⅔%
<hr/>			
Total.....	42		

III. Cases with incomplete pneumothorax with larger or smaller extended adhesions.

Able to work.....	5	=	11.1%
Died from tuberculosis.....	39	=	86.7%
Died from other causes.....	1	=	2.2%
<hr/>			
Total.....	45		

The injurious influence of the adhesions is simply demonstrated by these tables, which also give the impressions of the frequency of these adhesions. I have here no time to enter into the different methods attempted by others to remove such adhesions. I can only say that none of them have any practical importance.

As on thoracoscopy it was rather easy to observe the above mentioned adhesions, the thought was near at hand to cauterize such adhesions by introducing a galvanocauter through another puncture opening under guidance of the thoracoscopy. The first attempts were made in 1913, and since then I have altogether performed fifty-five such operations, of which I will in a shortened form relate the fifty. The operation is further performed in nineteen cases by Saugmann; of these his assistant Gravesen has published sixteen. Twelve cases have been published by Holmboe and further twenty cases by Skargard a.o., six by Sonne, six by Betrup Hansen, three by Christoffersen, two by Dahlstedt. At the present

moment certainly far more than 100 operations have been performed. On the picture I will demonstrate the detailed technic. I nearly always introduce the thoracoscope, which is done under local anaesthetic, on the back side, a little higher up when the adhesions are at the lung apex and lower down when they are in the lower part of the pleural cavity.

But of more importance is the place where to introduce the galvanocauter. Because in most cases the adhesions are situated upwards and laterally, I have mostly introduced the galvanocauter in the anterior axillary line in 17-19. I introduce still higher up in the axillary line by apex adhesions and by diaphragm adhesions in the lower part of the thorax wall. After having introduced the galvanocauter in the pleural cavity I arrive at the second and most difficult part of the operation, namely the handling of the galvanocauter under guidance of the thoracoscope. It is by this you want most practice. It is neither always quite easy to find the very galvanocauter itself, and its directing and applying on the adhesion requires a certain experience. Generally I apply the platinum needle on the narrowest part of the adhesion. In the cases where a cavern in the lung exists just under the attachment of an adhesion, I perform the cauterization as near the chest wall as possible. The pain can hereby at the very cauterization become rather severe. But as a rule the pains are quite moderate, especially when the question is about small strings or membranes which easily are cauterized in a part of a minute. Thick, firm, sinewy adhesions offer sometimes a very strong resistance, and I have now and then worked with them for one or two hours. At the cauterization it is of great importance not to have too strong a glow on the galvanocauter, because otherwise a hemorrhage may arise. Only in one of my fifty-five cases has a hemorrhage of 100-200 c.c.m. appeared and from other authors who have used the method only one single case is known to me where a really life dangerous hemorrhage appeared, probably caused by too strong glow. Since no death caused by hemorrhage in these more than 100 cases has occurred it seems to me that we are entitled to consider this complication not to be of such importance that the operation ought therefore to be abandoned in the same favorable cases. If a slight glow is used the danger ought to be relatively small, even if a curtain exists on this point.

At an epicritic survey of the fifty cases which I published, I will first consider the complications which ensued a shorter or longer time after the operations. To begin with we have to consider

the large or small skin emphysema which originate at the puncture openings of the chest. This complication can cause trouble in a few days but disappears then and is of no consideration to the further development.

But of another and greater importance are the pleuritic exudates which develop after the operation. I have in the following table arranged the different possibilities which occurred in my cases.

1. Cases without exudate.....	25
2. Cases with slight exudate.....	15
3. Cases with long-lasting exudate and fever.....	4
4. Cases with long-lasting exudate, accompanied by empyema.....	4
5. Cases with exudate appearing first 1 to 3 months after operation.....	2
Total.....	50

The first group of cases has quite naturally developed very favorably. After a few days' fever, the patient has had the same temperature as before operation. The same can be said about group two where we have a small exudate which does not reach above the pleura cupola. In one or two weeks it has disappeared without a trace. These pleurisies have therefore no influence on the clinical result and one is entitled to say that the operation in four of five cases has had no unfavorable influence on the clinical course. The third group comprises four cases, in which the exudate together with a higher temperature has had an apparent influence on the general condition which has remained during four to six weeks. To judge from the whole an ordinary tubercular pleurisy was at hand.

In the fourth group, which also comprises four cases, the pleurisy, developing after the operation was at first of a serous nature and thus of the same character as in group three. A tubercular empyema appeared after one or several months. In these cases the complication has had a very unfortunate influence, that of these four cases three ended with death after one or two years, without doubt in no small degree caused by the weakened general condition through the chronic empyema. In the last group the condition has been good after the operation, but after a few months an exudate has appeared which in both cases turned to empyema. Both patients got nevertheless by and by better so that the prospects for the future are tolerably good. If the cauterization has had anything to do with the later appearing pleurisy of course is impossible to decide with certainty. An independent development of the empyema is according to my opinion probable.

In other statistics one finds by Gravesen in two



cases empyema and in four cases serous pleurisy from his sixteen cases. In Holmboes twelve cases there is once a slight pleurisy and once a severe acute pleurisy and empyema with mixed infection, by which the patient died after four to five days. From above mentioned experiences taken altogether is seen that the pleuritic exudate and empyema are the most serious complications at this operation. In my cases the mortality is about 6 per cent. which though is maximum and ought barely to be attributed to the operation altogether. On the other hand it is evident that this complication nevertheless, is not of such an importance that the use of the method ought to be excluded from suitable cases.

I will now pass over to the credit side of the method and will in the following tables show the result in the cases operated by me. I have ranged the results in three groups, according to the position of the adhesions in the chest cavity.

	Number of cases	Complete or for collapse of the lung sufficient cauterization	In clinical respect with good result	Un- complete cauteri- zation
Jacobaeus—				
a Apex-				
adhesions .... 5	5	4	4	1
b Lateral				
adhesions .... 42	42	32	30	10
c Diaphragm				
adhesions .... 3	3	3	1	..
—	—	—	—	—
Total..... 50	50	39	35	11
Holmboe ..... 12	12	7	7	5
Gravesen,				
Saugman..... 16	16	9	7	7
—	—	—	—	—
Total..... 78	78	55	49	23

To begin with we have the apex adhesions. They are mostly short and technically difficult to reach with the galvanocauter. At the cauterization very often pains are felt on account of the proximity to pleura parietalis. In four cases out of five the operation has technically succeeded and also a clinically favorable result obtained. The second group, lateral adhesions, comprises the main part of the cases. In thirty-two of them the operation technically succeeded and in all of them except two also a clinically favorable result was obtained. In these two an empyema with the above mentioned consequences has developed.

In the third group, diaphragm-adhesions, the technical difficulties have been that the patient during the progress of the cauterization proper must keep the breath, because otherwise the adhesion is in constant movement. It is an advantage that in such cases the cauterization

is completely painless. In all the cases the operation has technically been successful, but only in one case has the clinical result been of value. The lung has had extensive adhesions in the upper part of the chest, which it has not been possible to remove by this method. The aim of the operation has been, in removing the diaphragm-adhesions to get a better compression of the lung in the upper part of the chest cavity. This is according to my opinion only possible in exceptional cases.

The total sum of cases with clinically successful result is thus. Among the eleven cases in which only incomplete cauterization has taken place I have only in one had a severe protracted pleurisy.

With regard to other authors, Holmboe has in twelve cases had seven clinically successful result. In sixteen cases Gravesen had nine technically successful and of these seven bacil-free ones. Two of the incomplete cauterized cases have taken a change for the worse through empyema and protracted fever. The probable cause seem to be an attempt to extend the indications for operation by burning off rather extensive adhesions. It is thus in no wise unusual to come across cauterizations in several seances, each of a duration of one to two hours. It is evident that the danger of exudate in such cases must be rather great.

If we thus summarize the result of these up to the present time published, seventy-eight cases we find that in fifty-five of them, that is, about three-quarters of all, it has succeeded by this method technically completely to remove the adhesions which prevented the complete collapse of the lung. Naturally the clinical result is not so favorable as only forty-nine, that is, two-thirds of the total sum have been symptom free. If we now return to the first table the practical result would be thus, that in these cases of adhesions one can improve them in such a degree that the future prospects of health increase from 33⅓ per cent and 11.1 per cent, respective to not less than 70.2 per cent. The mortality index would according to the same table be from 66⅔ per cent and 86.7 per cent respective to 23.4 per cent. Whether this in reality was so in the cases hitherto operated on I cannot say, partly because the time which has elapsed since the operation is too short, and partly because patients have been sent to different sanatorias and their further progress has not been under observation. A rapid survey of the facts available now would give less favorable figures, since they point to a death index of between 30 and 40 per cent., which, however, of course has nothing to do with the operation itself. Many factors surely enter into play. The most common

appears to have been that the patients were from the poorer classes and therefore unable to get proper nursing. The adhesion cases are often more severe than those in which a complete collapse is obtained.

Although it has not succeeded to get so good health percentage as in cases of simple, not complicated, pneumothorax without adhesions, this method ought to have a permanent value in, it may be, a limited number of pneumothorax cases with string or membrane-like adhesions.

I will now give a description of some cases of intrathoracic tumors, where the thoracoscope is employed for the detailed diagnosis of respiratory tumors and afterwards in most of the cases an operation succeed with the best result by Dr. Key.

**Case I.** A man, twenty-three years old. The last half year he had sometimes suffered from stitch in the left side and on account of this he was admitted to hospital. On x-ray examination a very large tumor was found in the pleural cavity quite filling up its posterior part. From the experience of earlier cases pneumothorax was now established. We could at x-ray examination only see the tumor, not its connection to the lung. On thoracoscopy, now performed, was seen that the lung was lying rather free from the tumor, only quite slightly attached to the same on the anterior side. Besides the tumor was free upwards and laterally. Operation was recommended to the patient and Dr. Key removed the tumor by operation October 13, 1915. It was performed without insufflation apparatus and succeeded well. The proceedings afterwards were rather difficult but the patient has nevertheless since then been quite well.

**Case II.** A man of twenty-eight years. More by accident an intrathoracic tumor was discovered. Also here pneumothorax was established and it was seen that the tumor was separated from the lung. On thoracoscopy a tumor, the size of a goose egg and with a broad stalk was immediately found in *Angulus costarum*.

Also this tumor was removed by Dr. Key, which was done quite easily. The tumors in both these cases were fibromyoma.

**Case III.** A woman, twenty-eight years old. The patient got ill half a year before with cough and symptoms of bronchitis. The respiration over the left lung downwards was weakened, fever set in and further symptoms of exudative pleurisy. By x-ray examination it was discovered that this was caused by a tumor. The exudate was drawn off and replaced by air and thoracoscopy performed, and now a large solid tumor, tolerably free from the lung and the chest wall observed. The surface was smooth with several lines and a cyst the size of a bean. The pleural surfaces were a little reddish with here and there greyish white deposits; it was impossible to decide whether they were fibrine or metastases. The exudate was

hemorrhagic and the exudate cells were microscopically found to be of an endothelial type, thus pointing to malignant tumor. It was first after a rather long consideration that we decided on operation. Dr. Key performed this and it was rather difficult to remove the tumor, owing to the same at one place being attached to the aorta. The patient was very exhausted after the operation but recovered quickly and is now, four years after the operation, in perfect health. As far as I know this is the first time that a tumor with hemorrhagic exudate, with all clinical symptoms of malignity, has been operated on with a lasting good result. The tumor was from a pathological anatomical point of view very peculiar. The pathologists considered it to be xantosarcoma.

**Case IV.** Woman forty-seven years old. This patient, who always before had been healthy, called on the doctor because of pains in the left shoulder and left arm. By x-ray examination a tumor was discovered, which filled up the whole of the pleura cupola on the left side. I want to point out that of clinical symptoms not only the ordinary physical ones of the chest but also the Horner symptom complex, that is sympathetic paralysis of the diseased side, could be proved. Pneumothorax was induced, and the lung was seen as an appendix of the tumor and seemed as such to continue downwards. The thoracoscopy confirmed that the tumor was situated intrapulmonary. Thoracotomy was also performed but, as was expected, the tumor was found to be inextirpable because it had grown in into mediastinum.

**Case V.** Concerns a woman, forty-four years of age, who was admitted to the hospital on account of a slight haemoptysis. On x-ray examination this formation was observed in the left lung. For the rest an exhaustive examination gave a negative result and the conclusion was drawn that this was an isolated disease in the lung, either tumor or tuberculosis, and the thought was directed on tumor diagnosis. *Echinococcus* do not exist here. Pneumothorax was induced and thoracoscopy also performed without any other result. Dr. Key removed the tumor which proved to be a solitary tubercle. The diagnostic mistake in this case was however fatal as a tubercular pleurisy with tubercular infection of the thorax wall ensued. The patient got worse and died in a short time.

The interest in these cases centers naturally around the use of pneumothorax and thoracoscopy for the local diagnosis of intrathoracic tumors. In cases of pleuritic exudate Brauer in Hambury has as the first one shown, that on x-ray examination after the drawing off of the exudate and its replacement by air, more beautiful and more pictures of existing tumors are obtained than when the exudate remains. The above related cases mark only the further development of this observation since here pneumothorax has been established in cases without exudate which then have been subject to x-ray examination and



thoracoscopy. In our summary Key and I have arrived at the following results:

1. For the diagnosis and localization of pleural and lung tumors, it is of great importance to make an x-ray examination before as well as after the induction of pneumothorax. By making an x-ray examination after the induction of pneumothorax valuable information is obtained, which completes that already obtained by the x-ray examination made before the induction of pneumothorax.

2. By thoroscopic examination valuable information is obtained for the diagnostic and localization of pleural and lung tumors, which successfully completes the result of x-ray examination.

3. If there is no opportunity of using a pressure differential apparatus, it might be advantageous to include pneumothorax previous to the operation in the pleural cavity.

4. If pressure differential apparatus be employed, then pneumothorax for the thorascopical examination ought to be induced as shortly before the operation as possible, in order that the inflation of the lung after the operation may not be rendered more difficult or impossible.

5. If the lung is inflated after the operation, more favorable conditions for the course of healing are eventually obtained.

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### CHRONIC APPENDICITIS\*

#### Treatment and Complications Following Operations

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The management of appendicitis is a good deal like the management of an automobile. There are many surprises in waiting. You think the thing is fixed, get in and pull the lever, yet it will not go. You take out an appendix, wash your hands, congratulate yourself that everything went off well, but it will not go. The patient comes back in three months and says, "Doctor, since my operation I have more pain than ever." Why? The auto didn't go because your garage man fixed the wrong wheel. The patient didn't get well because the surgeon fixed the wrong organ. It was all a case of mistaken diagnosis.

Only a few years ago in the greatest clinic of the world the long incision was denounced as unscientific and dangerous; permissible only at the post-mortem table. The short incision, the

shorter the better, was emphasized as the only safe one. It was not long, however, before the change came. That same great surgeon in that same great clinic soon began to hear from his patients with the short incisions. Then he began to extend his incisions and to explore the upper abdomen by simply putting his hand up inside the abdomen and palpating the region of the liver, at the same time saying he questioned the safety and wisdom of this procedure. What do they do now in that great clinic? It is not an uncommon sight to see the abdomen laid open from the xiphoid to the pubes, if it is necessary, to find out what is the matter inside. They tell us now that a long incision will heal just as quickly as a short one. Hernia is no more likely to follow the long than the short incision. If it does occur the hernia in the short incision will be the worse of the two. And they are right. The teaching now is that instead of a thorough exploration of the entire abdominal cavity being unscientific and dangerous, the omission of this complete exploration is unscientific and dangerous. Therefore, the first requisite in abdominal surgery is an incision long enough to permit a thorough exploration of the entire cavity.

### CHRONIC APPENDICITIS

When the character of appendicitis in its acute form is better understood, it is probable that the chronic type will be less frequently seen than it is at present. Many cases of chronic appendicitis are based on previous acute attacks in which spontaneous improvement has taken place or which have yielded to rational treatment, consisting of complete physiologic and anatomic rest, ice bags, etc.

If the surgical treatment could always be quick there would be little chance for death. If the physician would say, "This is appendicitis and not a case for me, but for the surgeon," there would be much less loss of precious time and much less loss of life. This applies to chronic appendicitis as well. If the surgical treatment could always be quick there would be little chance of death.

The puzzling thing about appendicitis is its protean character. This is especially true of the chronic disease. With the more general recognition that chronic appendicitis may stimulate any one of the diseases of the abdomen, not excluding genito-urinary and pelvic disorders, there is no doubt that much less unnecessary surgery will be done. Most commonly the disguise is that of some disease of the upper abdomen, particularly cholecystitis and duodenal or gastric ulcer. Various concise terms, such as appendicular gas-

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tralgia or appendical dyspepsia, have been suggested to designate this deceptive type of chronic appendicitis, but it is preferably called "appendicitis with referred symptoms."<sup>1</sup>

Dr. Bevan states his view of chronic appendicitis as follows: "There is one phase of this question that I should like to discuss with you, and that is the so-called cases of chronic appendicitis, those cases that have never had an acute attack, but which are supposed to have a chronic infection in the appendix giving rise to slight distress in that region. I want to state my opinion on this subject very strongly, and it is that most of these cases are mistakes in diagnoses and not cases of appendicitis at all, and, personally, I do not recognize such a condition as chronic appendicitis which has never given rise to any acute symptoms. Almost invariably these cases are cases of colitis, constipation, associated often with the taking of cathartics, and clean up under medical management. Show me a clinic where any considerable proportion of the appendicitis operations are done for so-called chronic appendicitis, and I will show you a clinic where a large amount of unnecessary operating is being done."<sup>2</sup>

#### SYMPTOMATOLOGY

If there is anything in the symptomatology of a chronically diseased appendix it is found in the extreme variability of the dyspepsia and the lack of regularity in the evolution of symptoms. Articles of food that at one time are associated with indigestion may be eaten with zest and relish on other occasions. The mechanism in the production of the symptomatology in the large majority of cases is probably that of pylorospasm, with pain, increased secretion, increased acidity, gaseous and sour eructations, and occasionally vomiting. This variability, in so far as its diagnostic possibilities are concerned, may be found epitomized by the statement of Moynihan that the most frequent site of ulcer of the stomach is in the right lower quadrant.

"Appendix dyspepsia" is a varied and indistinct clinical picture. It is usually more difficult to diagnose than either the conditions of ulcer or disease of the gall-bladder. If one can eliminate either of the two conditions named above it should be possible to arrive at a diagnosis of appendicular dyspepsia by elimination. In the ordinary case there is usually an absence of a history of an acute attack. Epigastric distress is a source of intermittent annoyance or sense of ache, and usually with no distinct relationship to food. The pain or distress is apt to be aggravated by activity and motion and is occasionally relieved

by an enema or a cathartic. It is infrequent for appendicular dyspepsia to be associated with a history of acute attacks, although occasionally local appendical pain may be elicited.<sup>3</sup>

Some of the visceral diseases with which appendicitis is commonly confused and oftentimes associated, are duodenal ulcer, gastric ulcer, and cholecystitis, with or without calculus, and renal as well as pelvic disorders.<sup>1</sup>

It is also necessary to establish clearly that we are dealing with an intra-abdominal irritation, because it is estimated that 40 per cent of the indigestions are due to causes extrinsic to the stomach but within the abdomen and 40 per cent are due to causes entirely remote from the abdomen. Numerically the most frequent cause of indigestion is: first, heart disease; second, phthisis; third, anemia and chlorosis; fourth, neuroses or psychoneuroses; and fifth, chronic nephritis. These conditions are all remote from the abdomen and can be eliminated.<sup>11</sup>

#### DIAGNOSIS

The question of chronic appendicitis calls for attention not because of the high mortality rate but because of a rather disconcerting morbidity rate, a post-operative persistence of symptoms. When a patient complains of the same symptoms after appendectomy as before operation, there is sufficient reason for belief that the original symptoms were not caused by the appendix—that treatment was based on an incorrect diagnosis.<sup>4</sup>

Cases of chronic appendicitis in which stomach symptoms predominated have been a stumbling block in the past and today the symptomatology of the condition is far from being definitely settled. It has been noted that chronic dyspepsia has been cured in patients who for years have been treated for chronic stomach disorders, in whom an acute appendicitis necessitated operation.<sup>5</sup>

Recognition of chronic appendicitis presents many difficulties, because its own manifestations are so variable and because so many conditions simulate it.

Chronic appendicitis is too often suspected as an adequate explanation for obscure digestive ailments—much more often than is justified by the fact.

The object of all diagnosis is rational treatment, and once chronic appendicitis is diagnosed there is no cure but surgery.<sup>6</sup>

It seems the time has come when the diagnosis of chronic appendicitis should no longer be made by the doctor off-hand in his private office, but he should call in aid from the laboratory, and



only after a searching history taking and exclusion of all other diseases may a fairly correct diagnosis be made.

#### TREATMENT

Treatment in chronic appendicitis will scarcely bear discussion. In ulcer of the stomach we do have medical cases in greater number than surgical cases. In gall-bladder diseases we may be pardoned for advising some sufferers to take the Carlsbad cure or other methods of treatment that may influence the oncoming of the later stage, but chronic appendicitis can only justly fall to surgery, and any other advice when the diagnosis is made must be considered faulty and perhaps dangerous.<sup>5</sup>

Appendicitis, either acute or chronic, or an appendix that has been the site of an unquestioned inflammation, calls for surgical treatment. Pseudo-appendicitis is in no way related to the appendix and is a non-surgical condition. Every case of so-called chronic appendicitis that is associated with enteroptosis, constipation and symptoms of nervous instability should be looked on as pseudo-appendicitis until the history and clinical findings prove it to be otherwise. If operation is decided on, it should be exploratory.<sup>4</sup>

No disease is more ideally suited for surgical treatment than is chronic appendicitis. The operative dangers are practically nil and if the diagnosis is correct the post-operative cure is absolute. A correct diagnosis is the all essential factor for success. The only absolutely reliable test for the purpose of studying the symptomatology of this disease, is the end result record. The patient who is promptly and permanently relieved following a simple appendectomy did have appendicitis. The patient who is not cured following the operation in all probability did not have an appendix which was responsible for the symptoms. Dr. Stanton's end result records studied extended over periods of from one to ten years following operations. His conclusion is that chronic appendicitis has proved to be a rather sharply defined disease in which the symptoms may be recognized by the fact that they reproduce in miniature the first symptoms of the acute attack. The disease differs from acute appendicitis by the fact that the obstruction is incomplete or because it is habitually relieved before the acute inflammatory stage develops.<sup>7</sup>

(Dr. Heyd's statement)—It is interesting to note that the cases that we have operated upon for chronically diseased appendices and whose only complaint was pain in the right lower quadrant have, as a rule, not been uniformly benefited

by the operation. Where we have corrected a dilated or atonic cecum or done a cecoplication and, more rarely, cecofixation, or have attended to a gross pathologic change in the cecal region or in the tube and ovary, these cases have been cured of the pain in the right lower quadrant, but where a simple appendectomy has been done for the sole complaint of pain in the right lower quadrant we have been chagrined to find that these patients have not been cured by an appendectomy. Accordingly, a symptomatology embracing only pain in the right lower quadrant without any other confirmatory sign is usually not the type of abdomen that is going to be cured of its pain by an appendectomy. On the other hand, cases that have had a subacute attack of appendicitis with so-called appendicular colic of epigastric pain, nausea, eructations or vomiting, and then a subsidence of the symptomatology, have been uniformly cured by the removal of the appendix.<sup>8</sup>

Appendectomy as a routine measure when operating for intraabdominal disease is undoubtedly a justifiable and warranted procedure and steadily gaining in favor among surgeons.

Appendectomy is probably the safest operation in the surgeon's repertory. The mortality in uncomplicated cases of appendicitis is about one-half per cent or less, the liability is minimal, and the results, beyond question, beneficial. It looms large as an important contributing factor in preventive medicine, the watchword of the profession today.<sup>1</sup>

#### POST-OPERATIVE COMPLICATIONS

##### (1) *Right Inguinal Hernia.*

In a study of 795 operations for right inguinal hernia, performed in the Mayo Clinic, seventeen had previous operations for appendicitis.

It is evident that the short McBurney incision for the removal of a chronic appendix cannot carry great risk of injury to the nerve-supply of the muscles of the inguinal canal, since the frequency of such operations would mean that more hernias would develop at the internal ring as a secondary result than have heretofore been reported. It is equally true, however, that when considerable traumatism to the abdominal wall has occurred at the time of operation by stretching and traction, or when drainage has been necessary, enough damage may have been done to the nerve-trunk to cause a deficiency of nerve supply to the muscles and a consequent atrophy of greater or less degree.

Conclusion: A McBurney incision which damages the nerve-trunks supplying the muscles

at the internal ring may be followed by right inguinal hernia. This damage is usually dependent on the use of drainage and infection of the abdominal wall. The sequelæ in all probability, occur in individuals who are already predisposed to hernia by the presence of a latent sac.<sup>9</sup>

### (2) *Mesogastric Membrane.*

Illustrated by a case by Dr. Taylor:

Patient, a young woman of twenty-two, in ordinarily good health up to 1913, when she began to suffer from periodic sick headaches which became more frequent and disabling. After two years her physician decided she was suffering from chronic appendicitis with reflex disturbances of the stomach. Appendix was removed. The removal of the appendix gave no relief, but in addition to her previous troubles there was a steady dull pain in the right abdomen which seemed to have no relation to the taking of food; she was not troubled with gas formation or constipation; had not lost weight; pain was made worse by standing, and somewhat relieved by sitting in a crouching position or lying on her stomach. An abdominal belt gave some comfort but no real relief. Attacks of headache and vomiting became more frequent and so severe as to interfere with her work. X-ray showed high fixation of the duodenum, gastrotroposis and coloptoses. Operation was performed. The duodenum was found to be held fast to the gall-bladder and the cystic duct by a firm fold of peritoneum which ran forward half way to the fundus of the gall-bladder, continuous with the edge of the lesser omentum. This double layer of peritoneum was divided with the scissors with practically no hemorrhage. The membrane was divided and the duodenum mobilized sufficiently to form an easy natural curve from the stomach outlet. A firm adhesion of the omentum to the appendix scar was also found and divided. No Jackson's membrane was present. Stomach showed no abnormalities. Uneventful recovery. Patient perfectly well.

This condition of mesogastric membrane had been described by several men previously but more thoroughly by Dr. Harris in a paper published in *The Journal of the American Medical Association* seven years ago.<sup>10</sup>

### END RESULTS

In 1911 Dr. Stanton reviewed his end results (*Ann. Surg.* 53:813, 1911) but states that there was an error in diagnosis amounting to 36 per cent. During the past eight years 86 per cent of the operated patients have been cured of chronic appendicitis. The great majority of the uncured patients presented at operation a normal appendix and an enlarged movable cecum; these patients complain of right inguinal pain associated with varying degrees of constipation, but a carefully taken history fails to reveal the first two cardinal symptoms of appendicitis, namely the

cramplike, diffuse, or midabdominal pain and nausea. Author says he has never cured a single one of these patients by appendectomy nor has he learned of a convincing cure by other surgeons. These patients are readily relieved by proper corseting, abdominal exercises, hygiene, and cathartics. Operations undertaken in the hope that the appendix might be the cause of various obscure gastrointestinal symptoms have been failures. Such authorities as Ewald and Moynihan have asserted that almost every conceivable form of dyspepsia might be caused by the appendix; author hoped they might be right, but to date has failed to find the cases.<sup>7</sup>

### THE LESSON

What is the lesson? The answer is that surgeons, always mindful of the high standard of their calling, should consider the appendix innocent until it is proven guilty by a critical analysis of all the clinical evidence, for and against, before deciding on operation.

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### THE DIAGNOSIS OF APPENDICITIS\*

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It may seem like a review of ancient history to bring the subject of appendicitis before a medical meeting at this time.

But the fact remains that this serious disease is of frequent occurrence and as very little can be said about its prevention we shall always be concerned about its diagnosis and treatment.

The fact, also, that it is a disease first seen and treated by the general practitioner or family physician, makes the subject one of vital interest to a meeting like this, made up largely of general practitioners.

\*Read before the Austin Flint-Cedar Valley Medical Society, July 21, 1921.



The late Dr. John B. Murphy, one of the pioneer American surgeons to deal successfully with this disease, said, a short time before his death, that it is now time to review and rewrite the whole subject. It is greatly to be regretted that this great teacher did not live to complete this important task. He performed his first operation for appendicitis in Cook County Hospital in 1889. As an introduction, I will quote his exact words from one of his clinics in 1915.

"The average hospital mortality rate is just a little over 10 per cent. These are not surgeon's statistics, they are the statistics of hospital managements, figures taken from the printed reports of hospitals which are progressive enough to publish reports. They include appendicitis cases of all classes brought to the hospitals for operation.

"Is it time to stop talking about appendicitis? No. It is just the time to begin talking about appendicitis and talking most seriously and emphatically about it."

As in all disease which we are called upon to treat, a correct diagnosis is of great importance. It is especially so in appendicitis for upon a correct early diagnosis depends the successful treatment.

For the purpose of this brief paper I shall refer: (1) to the diagnosis of acute appendicitis; (2) to the diagnosis of chronic appendicitis.

In the large majority of acute cases the physician is called to the bedside of the patient. Cases of chronic appendicitis usually consult the doctor at his office.

What induces the patient to call the doctor? Pain in the abdomen, persistent pain which came on suddenly perhaps awakening him from a sound sleep or compelling him to quit work by day.

Many times the customary cathartic has been taken before the arrival of the physician.

The patient's only desire usually is to be relieved of pain and here too often the physician yields to temptation and gives a hypodermic of morphine, thus masking the first and most important diagnostic sign. Here the physician is justified in administering a placebo and watching the development of the case for the next few hours in case he should be called too early to make a diagnosis on his first visit while the pain is still diffuse.

While we are considering pain as the first and most important symptom we must not forget that the cessation of pain is a danger signal.

While it is not the purpose of this brief paper to go into the pathology of appendicitis yet we can not overlook the rapid changes which take place within the abdomen in a few hours.

Here again I beg to quote from Murphy: "A mild attack of appendicitis which starts out with colicky pains, nausea and vomiting and a slight elevation of temperature may develop a leukocytosis and local sensitiveness of the right flank in the first six or eight hours of the attack. By the next morning the pain and temperature may be gone entirely. The doctor then is in a quandary. He is unable to tell from the symptomatology whether the patient is going on to an uneventful recovery because the contents of the affected appendix have drained into the cecum or whether he is headed straight for the grave because the infected appendix has undergone complete gangrene."

"A gangrenous appendix causes no pain because its nerves are dead."

"It produces no elevation of temperature or leukocytosis because absorption of the products of infection are impossible through its dead mucosa. When an apparently mild attack of acute appendicitis has reached such a stage, all the doctor can be certain of is that the patient has appendicitis. The disappearance of pain is the last call to operation."

"If the appendix is gangrenous the next symptom will be that of a rapidly spreading and probably fatal peritonitis. Remember that the appendix which becomes suddenly completely gangrenous forms no adhesions, and when it ruptures it empties its contents into a free and unprotected peritoneal cavity." The appendix which is dead, like the patient who is dead, presents no symptoms. The living appendix is painful and absorbs the products of bacterial infection, which produce fever and leukocytosis.

But the dead appendix has no sensation and no power of absorption. The patient with such an appendix in his abdomen has no symptoms until its necrotic wall ruptures and a spreading peritonitis sets in.

There is another condition where cessation of pain is a danger signal and that is in perforation of the ordinary pus appendix. Perforation relieves tension on a distended, inflamed appendix. The cessation of pain is only a deceptive lull in the storm which soon increases in severity with local or general peritonitis.

The second symptom in sequence is nausea and vomiting, the former always and the latter commonly present in severe cases.

The third symptom in order is local tenderness and rigidity in the right iliac region. Muscular rigidity is nature's guard over the inflamed appendix. Marked rigidity of the right rectus may

be taken as a sign of a perforated appendix and beginning peritonitis.

Fourth, elevation of temperatures and pulse. Formerly too much dependence was placed upon these symptoms. Experience has taught us that serious pathologic changes may be taking place with a subnormal or normal temperature and slight elevation of pulse.

Cases with elevation of temperature 101 to 102 preceding pain should practically rule out the diagnosis. Surgeons of experience have operated upon cases of typhoid fever with perforating ulcer under a diagnosis of acute appendicitis.

Cases presenting themselves with abdominal pain or referred abdominal pain and with temperature of 102 to 104 within twenty-four hours from beginning of attack should be examined carefully. Suspect pneumonia, especially in children.

Leukocytosis is corroborative evidence in the acute stage and the count should be always made when possible.

In dealing with acute cases treated surgically we are often surprised at the extent of pathologic changes present. Formerly we dated the beginning of the disease from the beginning of the present attack. A careful history of the case will elicit the fact that this attack is only an acute exacerbation of a chronic condition persisting for months or perhaps for years. In other words we often find chronic appendicitis precedes and leads up to acute appendicitis.

While the typical case of appendicitis is usually not difficult of diagnosis we must not forget that there are typical cases.

The long list of diseases which have been mistaken for appendicitis should be a warning to the diagnostician. The list is long and includes the following which must be excluded when possible in making a correct diagnosis: 1. Strangulated hernia. 2. Perforation in typhoid fever. 3. Tubercular peritonitis. 4. Cholecystitis. 5. Pyosalpinx. 6. Renal colic. 7. Pneumonia, especially in children. 8. Ruptured tubal pregnancy. 9. Acute gastrointestinal colic. 10. Perforating duodenal or gastric ulcer. 11. Twisted pedicle of ovarian cyst. 12. Diverticulitis. 13. Dietel's crisis due to kinking of ureter in movable kidney. 14. Hysteria.

I shall not attempt to go into the differential diagnosis of all these conditions, but simply name them that we may avoid some of these rocks upon which others have been shipwrecked.

*The Diagnosis of Chronic Appendicitis*—As has been stated these cases are of the walking variety and come to consult the physician at his office

and many of them tax the skill of the most expert diagnostician. Time can be taken for a careful study of these cases and if this were done less reproach would be brought upon surgery. Too many cases of neurasthenia, hyperacidity, viscer-optosis and hysteria have been operated upon by ambitious surgeons who are afflicted with what Nicholas Senn rightly named "furor operations" or craze to operate.

In the diagnosis of chronic appendicitis a carefully taken history is of first importance. There will usually be elicited a history of mild acute attacks. Here an x-ray examination by a competent roentgenologist may be of much assistance.

Doubtful cases should be referred to internists and surgeons of experience for diagnosis.

In conclusion the diagnosis of acute appendicitis may be epitomized in three words, viz: pain, tenderness, rigidity. Likewise the diagnosis of chronic appendicitis by the signal at the railway crossing: stop, look and listen.

### THE RADIATION TREATMENT OF HYPERTHYROIDISM AND THE BASAL METABOLISM TEST\*

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The successful treatment of practically every pathologic condition depends greatly upon an accurate diagnosis and hyperthyroidism offers no exception to this general rule. In order that we may have a broader conception of this subject it would be well to recall Plummer's classification of thyroid disorders (excluding the malignancies and inflammatory conditions) which is as follows:

1. Too Much Secretion (Hyperthyroidism, Hyperthyroidism or Toxic Goiter): Exophthalmic Goiter, and Thyro-toxic Adenoma—Have an increased metabolic rate.
2. Too Little Secretion (Hypothyroidism): Cretinism and Myxedema—Have a decreased metabolic rate.
3. No Altered Secretion (Simple or Non-toxic Goiter): Non-toxic Adenoma, Colloid Goiter and Adolescent Goiter—Have a normal metabolic rate.

The symptoms of hyperthyroidism are such that no one of them is pathognomonic of the condition and it is not rare to find all the cardinal symptoms present in one not suffering from the disease. If, however, the symptoms are interpreted in the light of a careful basal metabolism

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study there should be little trouble in reaching an accurate diagnosis. While the basal metabolism test has been a wonderful aid in the successful diagnosis of hyperthyroidism, many physicians have developed erroneous ideas as to the general usefulness of the test. The following remarks in regard to the clinical interpretation of the test, if carefully followed, will give a good general idea of the significance of the test and how it should be interpreted clinically. (The author acknowledges his indebtedness to Prof. H. M. Jones, Ph. D. Department of Experimental Medicine, University of Illinois, for much of the following pertaining to the clinical interpretation of the basal metabolism test.)

#### Clinical Interpretation of Basal Metabolism Test

A physician receiving a report of the result of a basal metabolism test made of his patient is informed that the rate is plus 25 per cent or perhaps minus 20 per cent, but frequently this means but little to him. It should be recalled that the normal basal metabolism has a range of from plus 10 to minus 10 per cent, the same as the normal temperature may vary from 97.5 to 99 degrees F. If a metabolic rate is above plus 10 or below minus 10 per cent, and the test has been rechecked and carefully made after the patient has been suitably prepared, this justifies the diagnosis of some pathological condition associated with an altered metabolic rate, the seriousness of the pathology being proportional to the extent of the alteration in the metabolic rate.

The greatest usefulness of the metabolism test is in the diagnosis of thyroid and pituitary disorders. So much has been written about the metabolism test in connection with goiter conditions that many physicians believe the rate of metabolism is influenced only in thyroid disorders. While a very high percentage of all abnormal basal metabolic rates are dependent on an altered function of the thyroid, there are other conditions which affect the rate.

The basal metabolism test is useful in the following conditions:

##### A. The metabolic rate is increased in—

1. Hyperthyroidism, that is, exophthalmic goiter or thyro-toxic adenoma (from plus 20 to plus 40 per cent in mild, plus 40 to plus 60 per cent in moderate, plus 60 to plus 100 per cent or more in severe cases). In non-toxic enlargements of the thyroid (simple goiter), as non-toxic adenoma, adolescent goiter and colloid goiter, the rate is normal.

2. Pernicious anemia (as high as plus 40 per cent in some cases).

3. Leukemias.

4. Typhoid (mainly because of fever).

5. Later months of pregnancy and early in the puerperium.

6. All fevers (from plus 5 to plus 10 per cent rise in metabolism for each Fahrenheit degree rise in temperature).

7. Hyperpituitarism, that is, gigantism or acromegaly (up to plus 40 per cent).

8. Diabetes (up to plus 20 per cent in early cases, although below normal after the patient becomes emaciated).

9. Cardiac decompensation (up to plus 40 per cent).

We can conclude from the above that if the metabolic rate is plus 45 per cent or more, the diagnosis is practically certain to be hyperthyroidism. There is no other pathologic condition which will increase the metabolic rate so high as this disease. However, if the rate is from plus 15 to plus 40 per cent the diagnosis is not necessarily one of hyperthyroidism. If, however, a blood count eliminates a primary anemia, no sugar is present in the urine, cardiac examination reveals no decompensation, a febrile condition is eliminated by the thermometer, and a physical examination is negative for pregnancy or changes produced by hyperpituitarism, then we are justified in interpreting the increased metabolic rate as due to hyperthyroidism. In actual practice we find, however, that over 90 per cent of all abnormally increased metabolic rates are due to a hyper-function of the thyroid.

##### B. The metabolic rate is decreased in—

1. Myxedema and cretinism, that is hypothyroidism (as low as minus 25 per cent).

2. Frohlich's syndrome of pituitary origin (about minus 25 per cent, although in Frohlich's syndrome of the eunuchoid type, from which it is most often clinically indistinguishable, the rate is normal.

3. Pathological obesity of hypothyroid or hypopituitary origin. Although in simple obesity, (the obesity of laziness and big eaters) the rate is normal. In the former, glandular therapy is indicated, but in the latter, thyroid preparations should positively not be used, since thyroxin increases the combustion of muscle tissue instead of fat tissue.

4. Extreme cachexia, as in tuberculosis, diabetes, prolonged starvation, etc., (as low as minus 30 per cent).

5. Persons in perfectly normal health, but running a slow pulse, say as low as 50, may show a metabolism rate as low as minus 20 per cent.

6. Addison's disease (about minus 30 per cent).

Combinations of these conditions may give any kind of a rate, that is, an emaciated tuberculous patient with fever may be low on account of the emaciation or high on account of the fever, or normal on account of both variations counter balancing each other.

Since there are so many pathological conditions which raise or lower the rate of metabolism, the question often asked is: Why is the test used only in diagnosing thyroid and pituitary abnormalities? The answer is simply this: All of the above named pathological conditions, excepting those of pituitary and thyroid abnormalities, are diagnosed far more readily by other more obvious means. Who needs a metabolism test to recognize leukemia, diabetes, cardiac decompensation or a full term pregnancy?

However, suppose a clinician in a suspected case of hyperthyroidism finds the metabolism increased, say, plus 30 per cent. If the patient has four degrees of fever at the time of the test, and the clinician does not know that the metabolism is markedly increased by fever he would be easily misled into error in his diagnosis of hyperthyroidism. Therefore, although we do not find a use for the test in diagnosing most of the conditions named above, it is absolutely necessary that we bear in mind that these conditions influence the metabolic rate.

On the other hand, we have no means of recognizing a beginning hyperthyroidism in the presence of symptoms suggesting incipient tuberculosis, or neurasthenia, or the neuroses of adolescence, excepting through the basal metabolism test.

Likewise, the two types of Frohlich's syndrome can often be distinguished only by means of a determination of the metabolic rate.

Addison's disease has often been confused with myxedema, because of the pigmentation of the skin observed in some cases of the latter, when (if the low blood-pressure symptom is doubtful, as from a complicating nephritis) the two can be differentiated only by the therapeutic test, that is, through thyroid therapy, controlled by successive metabolism determinations.

Patients complaining of recent rapid gain in weight can not be effectually treated until the metabolism rate shows whether the condition is that of the simple or of the endocrine type of obesity. Having determined by the basal metabolism test whether the condition is one of simple or of pathologic obesity, the data obtained from this may then be used to estimate the caloric or

dietetic control of the one, and the thyroxin or thyroid gland treatment of the other.

The test is of the most value in the borderline cases of hyperthyroidism, and while one seldom requires the test for recognition of the more advanced cases, it is most often in the advanced cases that the test is required to show how the disease in each individual case responds to treatment—x-ray, radium, rest in bed, ligation, thyroidectomy—and also to indicate which form of treatment in a given case is the better one to employ at the outset.

Perhaps nothing is more striking than the use of the test in determining whether or not the correct dosage of thyroxin or thyroid preparation is being used in the treatment of myxedema, since these preparations vary in strength from nothing to full potency, and since individuals vary in the amount of the drug they require to bring the metabolism up to the normal basal level.

Another question is often asked: Is it possible to decide by the aid of the basal metabolism test whether or not radical operations may be safely undertaken in moderately severe cases of hyperthyroidism? Mayo (Surg. Gyn. and Obstetrics, March, 1921) believes that a patient showing a metabolism rate of plus 40 per cent is a more dangerous risk surgically when the rate is on the up-grade, than the one whose rate is plus 60 per cent, with the rate on the down-grade, as shown by successive tests, taken a few weeks or days apart. Other factors, that is, the age, the state of nutrition, condition of the heart, etc., are obviously most important in deciding the question of operation.

#### Pathology of Hyperthyroidism

Before considering the treatment of hyperthyroidism it would be well to recall the pathology of the condition. There may or may not be enlargement of the thyroid gland. Histologically there is an almost universal proliferation of the glandular cells, an increase in connective tissue, certain groups of lymphoid tissue scattered through the connective tissue and enlargement and multiplication of the blood-vessels. There is also some disturbance of the lymph system indicated by a lymphocytosis and decreased polymorphonuclear neutrophiles, and frequently an enlarged spleen and lymph glands. In over 50 per cent of the exophthalmic goiter cases there is some undue enlargement of the thymus. There is a hypersecretion of the thyroid from the increased blood supply or to the activity of the new formed cells or both. The fact that there is a lessened amount of the normal colloid material present in the gland and an increased amount of iodine in the blood, is



decidedly suggestive that the trouble is due more to an altered secretion than a superabundance of normal secretion. In other words the gland secretes a toxic substance into the blood stream. This toxic secretion gives rise to an increased oxidation of the tissues and as a result more oxygen is absorbed through the lungs than normally. The principal of the basal metabolism test in this condition is simply to observe the time which the individual takes to consume a definite quantity of oxygen, according to the sex, age, body surface area, etc. In an advanced case of hyperthyroidism the individual will consume twice the amount of oxygen that a normal individual of the same sex, age and size would consume.

#### Radiation Treatment of Hyperthyroidism

In undertaking to treat this disease we must consider medical, surgical and ray therapy. As the etiology is still unknown, we must attack it symptomatically and with regard to what is known of the pathology. All sources of infection should be removed and a prompt reduction in symptoms must be secured because of the degenerative changes that are prone to take place in the heart. Complete physiologic rest is of great importance. There is no known drug which will decrease the metabolic rate outside of the opiates, hence the futility of persistent medication alone in this condition. Our efforts should be directed at something which will decrease the vascularity or destroy the new formed cells of the thyroid. This can be effectively done by surgery, radium or x-ray.

When we consider the pathology of the gland and the action of radium and x-rays they would seem to have a most certain place as remedial agents. We again bear in mind that there is a proliferation of the glandular cells, deposits of lymph tissue through the thyroid, an enlarged and active thymus and lymph nodes and we see that the disease apparently is not confined merely to the thyroid gland. If surgery be done a diseased portion of the gland is removed and healthy thyroid tissue also taken away. In the portion left behind, certain of the diseased elements remain to often cause further trouble and perhaps to again proliferate when the strain for caring for the body is thrown upon the small remaining amount of normal thyroid tissue, also the thymus gland is not operated upon. We remember that there is a hyperplasia of the arteries which the Mayos have endeavored to attack by ligation but this does not distribute the blocking process evenly through the gland.

Radium or x-rays possess the ability to kill a

diseased cell or a new growth cell when several times the same dose would be necessary to kill a normal adult cell. Also when applied to a blood-vessel there is a swelling of the tunica intima followed by an obliterative endarteritis in the smaller vessels and diminution of the caliber of the larger ones. Now whether the toxic secretion be due to the additional blood supply or to the activity of the new formed cells in the gland, or to both, it will be affected by the radium or x-ray action. There is this further advantage in using radium or x-rays, that while diffuse action over the entire gland will eliminate the toxic cells yet the normal healthy tissue will be left untouched, provided the dosage can be accurately estimated. Further the blood supply will be reduced much more evenly throughout the gland than can be done by ligation of some of the thyroid arteries.

We also see that radium or x-rays can be used not only on a case suitable for a surgeon, but on cases where the surgeon is compelled to decline to operate and even on cases where the surgeon has operated and failed. The thymus and lymphatic system can be, and are, rayed, which may explain the success of radium or x-rays on a case where operative removal of a part of the thyroid has not been successful.

Soiland states, "It is not the intention of the writer to decry surgery, or to detract one iota from the many brilliant results obtained by competent operators, but the fact must not be lost sight of that in radiation we have a proved therapeutic agent, far superior to any other given us up to the present time. The oft repeated statement that radiation over any field creates so much vascularity, or produces so many adhesions that surgery is rendered more difficult is entirely false. Radiation always diminishes vascularity in any region where it is applied long enough to have its obliterating effect on the arterioles established, and this is the essential status required in the successful termination of toxicity in this variety of goiter. There is surely no longer any excuse for denying a patient the use of this remedy, which if not successful, has at least prepared the way for possible surgery."

Dr. Soiland's statement should be qualified in that, multiple raying of the thyroid with small doses over a prolonged period of time will make operation more difficult because of the resulting fibrosis. However, there is little excuse for such treatment. The proper treatment requires comparative few, but fairly large filtered doses. The metabolism and pulse rate usually return to normal after six to eight x-ray treatments have been given over a period of about six months. If x-ray

therapy is prescribed and four treatments are given at three week intervals, and the patient has not shown definite clinical improvement, nothing is to be gained by further treatment, and the surgeon can operate the goiter without any attending difficulties as a result of this previous radiation.

No less of an eminent surgeon than Crile of Cleveland has shown that x-ray therapy in hyperthyroidism reduces the basal metabolism more than ligation. However in fairness to Crile it should also be stated that he contends that bilateral partial thyroidectomy reduces the metabolism more markedly than x-ray therapy.

As far as the author's personal experience is concerned, it makes very little difference whether radium or x-rays are employed. They both give equally good results.

### Conclusions

I believe radium or x-rays should be given a trial in hyperthyroidism because:

First—There is no mortality.

Second—There is no resulting scar or hospitalization.

Third—It is painless and causes very little inconvenience to the patient.

Fourth—It does not interfere with the patient's occupation.

Fifth—The thymus can be treated which is impractical to attack surgically.

Sixth—Surgery in removing proliferating cells leaves others behind, and by ligating still leaves some of the blood supply more or less undisturbed. The selective action of the radium or x-rays to a much greater degree destroys the harmful cells, while not disturbing the normal cells, and also causes a much more symmetrical diminution of the blood supply.

Seventh—It can be used in cases where surgery fears to venture or has failed.

Eighth—If not entirely successful, an operation may be performed with less danger because of the favorable action of the rays on the thymus. In nearly all such cases the preliminary operations of multiple ligations can be dispensed with and the final operation of partial thyroidectomy done at once. No greater service can be rendered a patient than to save him these multiple operations with their attending dangers.

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## OPHTHALMOLOGY AND THE LESSER ALCOHOLS

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Since the eighteenth constitutional amendment became effective, the medical and sociological problem of alcohol has assumed a different aspect. It is not the purpose of this paper to discuss the time worn actions of ethyl alcohol but the toxic effects of the lesser alcohols and raw liquor especially on the system in general and the eye in particular.

The use of alcohol in one form or another antedates history. In the ninth chapter of Genesis is recorded the fact that Noah became drunken, and all the ancient nations were known to be heavy consumers of various alcoholic liquors.

When alcohol is mentioned we usually think of the most used ethyl variety, however, in the fermentation and malting of grains or fruits, several other alcohols are produced, and it is these with which I wish mostly to deal.

In the fermentation of fruit juices, and malting and brewing of grain traces of methyl, ethyl, propyl, butyl and amyl alcohols are developed, depending for their proportion on the character of the substance used and the method of fermentation.

Baers table (chart) shows the relative toxicity of the various groups. This table is relative, and gives the immediate and not late toxic action of the different alcohols.

SUBSTANCE	FORMULA	Boiling Point	Specific Gravity	Relative Toxicity "Baer"	Relative Toxicity on Fish "Picaud"
Methyl .....	CH <sub>3</sub> OH	66°	0.812	0.8	0.66
Ethyl .....	C <sub>2</sub> H <sub>5</sub> OH	78°	0.806	1.0	1.00
Propyl .....	C <sub>3</sub> H <sub>7</sub> OH	97°	0.817	2.0	2.00
Butyl .....	C <sub>4</sub> H <sub>9</sub> OH	117°	0.823	3.0	3.00
Amyl .....	C <sub>5</sub> H <sub>11</sub> OH	131°	0.825	4.0	10.00

It will be noted that ethyl alcohol is more toxic than methyl. This is true only in so far as the immediate dosage is concerned, and does not take into consideration the late effects of methyl alcohol.

Methyl alcohol is prepared commercially by the destructive distillation of wood, but is present in small amounts in ordinary fermentation.

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Ethyl alcohol, the one chiefly used in medicine, is derived from the fermentation of fruit and grain sugars.

Propyl and butyl alcohols occur as by-products in the fermentation of ethyl alcohol. Propyl is more powerful than ethyl, and butyl more toxic than propyl. Both occur as constituents of fusel oil.

Amyl alcohol, the most toxic of the series, occurs as a product of the yeast cell and is derived from proteins. Amyl alcohol is the main constituent of fusel oil, and is much used in the manufacture of essences and perfumes. For commercial purposes it is derived mainly from the fermentation of potatoes.

Any mash fermented with yeast from grain or potatoes will contain a higher percentage of fusel oil than the ordinary fermented fruit juices.

Picauds table of experiments of fish gives the relative toxicity of the various groups.

In the manufacture of alcoholic liquors, there are two main groups. The fermented type and the distilled. Wines, champagnes and malt liquors are the fermented variety, and can contain no more than 12 or 14 per cent of alcohol, unless artificially fortified as the ferment is killed by this percentage of spirits.

In the brewing of beer, yeast is used and by its action on the protein of the grain, fusel oil is developed. This process was controlled by the experienced brewer by the length of time the yeast was allowed to act, and also by the regulation of the incubation temperature.

In the manufacture of home-brew, these factors are not taken into consideration as accurately and consequently, more injurious by-products are developed.

The distilled liquors including whiskey, brandy or cognac, gin and rum, contain from 30 to 35 per cent of spirits.

Whiskey is manufactured by the distillation of fermented grain mash; gin the same with the addition of juniper berries; rum from molasses, and brandy from fermented fruit juices.

If the boiling point of the various alcohols be noted, it will be seen that fractional distillation could be carried out very nicely, to avoid contamination of the finished liquor with the more toxic alcohols.

In the distilleries the practice of manufacturing liquor was a fine art. They employed expert chemists and distillers and furnished a finished product of uniform density and alcoholic content. There was always a trace of fusel oil with its high toxicity, but this was eliminated by the ageing in

wood of all liquor before sale. Three years was a minimum for the ageing of all distilled liquor. During this period the fusel oil became oxidized into the esters and ethers of the fusel oil radicals which gave the liquor its aroma or bouquet.

In the corn variety, and the home distilled liquors of today, no check is made of the fermentation of the mash as regards formation of fusel oil, no record made of the temperature at which distillation is to be carried out to avoid distilling over the heavier alcohols and needless to say, no three year ageing in wood is permitted before the article is on the market and consumed, as moonshine and white mule.

Even in the fermentation of wines, the amateur develops a product much more toxic than the expert and experienced manufacture. Most of the home-made wines are never six months old before consumed, and practically none of them were kept in wooden containers that as much as possible of the fusel oil might be absorbed before consumption.

Many of the favorite recipes for home-made liquor call for the addition of yeast to the fruit juices with the addition of sugar, corn meal and other ingredients.

It will be readily understood how the excessive development of the fusel oil series will be accordingly increased.

It is to the fusel oil with its content of propyl, butyl and amyl alcohols and the methyl content as well, that these liquors owe their excessive kick.

The ordinary aged liquor when consumed gives the reaction that most all are familiar with. But the home-made variety, and particularly the home distilled and corn liquor, have a long delayed toxic action which must be attributed purely to the high content of fusel oil.

Prolonged hangovers, after a debauch of these liquors, with the gastrointestinal and cardio-vascular symptoms, we have all met with in the last two years.

Bearing in mind the high fusel oil content of raw liquor, it will be readily understood why continued use produces all the symptoms of chronic alcoholism; with the gastro-intestinal, cardio-vascular, renal, hepatic and neurological pathology, much more rapidly than the aged in the wood and blended varieties.

Then it must be remembered that all bootleg whiskey is not distilled. Much of it is artificially made from alcohol or denatured alcohol with water, caramel coloring and flavoring. Liquor of this type has been manufactured for years, and marketed at a low rate, and its effects have

always been pernicious. But recently with the difficulty in securing grain alcohol, the denatured variety has been used with dire results to the consumer. Almost daily one reads of serious complications or death following the use of these illicit liquors.

Hundreds of deaths have been reported and what from a sociological standpoint is much worse, hundreds of cases of blindness have resulted. The fact that a man goes on a debauch, drinks raw or methyl spirits and dies, is his own lookout, but when he becomes a burden on society, a toxic amaurosis, it is entirely a different matter.

It has long been known that methyl alcohol has a peculiar and selective action on the optic nerve. Casey Wood in 1904 published a most valuable article on the action of methyl alcohol, and since that time it has had periodic attention in the literature, and following the passage of the Volstead act medical literature is full of case reports and articles dealing with the subject.

Methyl alcohol, on account of its cheapness has been heretofore used in the preparation of extracts. Fortunately, this process is now illegal but the denaturing of ethyl alcohol with it still continues. Until recently 10 per cent of methyl alcohol was used as a denaturing agent, and it was in that percentage that we purchased it at garages and drug stores. On January 8, 1920, the regulation was changed to 2 per cent, so the dangers from a single drink of denatured alcohol now are less remote. However, we cannot be so hopeful in regard to the chronic ingestion of denatured alcohol for the accumulative action of repeated small amounts of methyl alcohol culminate in defective vision and blindness.

Methyl alcohol has a selective affinity for the highly specialized nerve elements, the optic in particular.

Birsch-Hirschfeld states that methyl alcohol is capable of injuring the eye more severely and rapidly than ethyl alcohol and that blindness ensues not only after an acute intoxication but after repeated small doses, the result of which does not occur in ethyl alcohol.

The cumulative effects of methyl alcohol are marked. Fatty degeneration of the liver was always present in the animals under experimentation.

The cumulative action and the toxicity of methyl alcohol, may be explained by the difference in the oxidation products in the animal organism.

Ethyl alcohol, although the more toxic in

acute stages, is rapidly oxidized into CO<sub>2</sub> and water, and eliminated. Methyl alcohol is slowly and partially oxidized in the animal tissues and split into substances more toxic than the alcohol itself, namely formaldehyde and formic acid. Formaldehyde is thirty times as toxic as methyl alcohol and formic acid six times. Formic acid is slowly excreted in the urine, and on test animals the maximum amount did not appear till the fourth day after ingestion, showing how difficult it is for the organism to eliminate these substances, and the prolonged toxic action.

Methyl alcohol is not only poisonous as a beverage, but the fumes when inhaled, give rise to the same symptoms.

Shellac workers where wood alcohol is used are liable to methyl poisoning. Cases have been reported from the use of denatured alcohol for external use such as alcohol rubs after baths.

In the early intoxication from wood alcohol, there is no particular symptom, there is no particular visual disturbance. The acute intoxication may pass away and no visual disturbance be noted, then after several hours severe gastrointestinal symptoms arise, associated with rapidly failing vision. Complete blindness and marked dilatation of the pupils may occur but usually there occurs marked improvement in the sight for several days. Good useful vision may be regained and continue for several weeks, then the vision begins to fail the second time and usually becomes as bad as in the beginning. This second blindness is permanent and cannot be limited or checked by treatment at that late date.

Very few cases come under treatment early enough to give good results. The ordinary man refuses to admit the alcoholic excess and probable ingestion of bad liquor until it is too late to regain the lost vision.

The late gastrointestinal symptoms, and destruction of vision, are due to the partial oxidizing of the methyl alcohol into formic acid and formaldehyde and their action on the central nervous system direct. The failure of vision is accounted for in the same way. The early loss of vision, to an acute toxic neuritis with resulting pressure and pallor of the optic discs. The improvement in vision is due to the passing of the neuritis and relief of tension. Then the secondary loss of vision due to secondary atrophy from the dying nerve fibers.

Graefe-Saemisch states that many of the autopsies showed the lesion beginning in the region of the optic canal. Describing the secondary changes he further states that it is a process of simple



atrophic degeneration both ascending and descending, secondary to interstitial optic neuritis.

The manner and pathogenesis of failure of vision from the chronic ingestion of methyl alcohol occur in the same way from its cumulative action and also by its action on the ganglia cells.

The objective symptoms are not absolutely pathognomonic. In the early stages the dilated pupils and swollen disc, later the gradual developing palor of the nerve head and contraction of the blood-vessels, giving the picture of a secondary atrophy.

Perimetric findings will show an indefinite central scotoma early due to the action on the papillomacular bundle.

Later the field undergoes great concentric and irregular narrowing but following no definite rule. Treatment may be divided into active and prophylactic, active treatment to be of service must be started early.

The unfortunate part of instituting treatment is in the fact that it is only when the central nervous system becomes involved and the poison has left the alimentary tract that the gastrointestinal symptoms come on. Gastric lavage continued for days, sweats, either turkish baths or pilocarpin, venesection, alkalies to counteract the acidosis and in severe cases lumbar puncture.

All these must be instituted early and pushed to the point of tolerance. When the late atrophy begins, no amount of treatment is of avail.

Prophylactic Treatment—The education of the public that all raw liquor is exceedingly toxic and that destructive symptoms are rapidly developed; that illicit liquor is as apt as not to be made from alcohol denatured with 2 per cent methyl spirits and that the dealer does not guarantee the purity of his product.

Much valuable work in publicity and education of the public has been done by the Committee for the Prevention of Blindness.

In my opinion, this, like all other problems, tends to solve its self. The fad of home brewing and manufacture of illicit liquor is becoming each day more difficult.

The old boys who will have alcohol even if it be denatured, slowly but surely, pass on and the new generation coming will lack the general craving for alcoholic stimulation.

I deem it our duty as physicians and oculists to educate as far as possible, those with whom we come in contact as to the deleterious effects, and the great hazard associated with the consumption of illicit liquor.

## INDICATIONS FOR UROLOGICAL EXAMINATION\*

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Some indications for urological investigation are generally recognized by the profession at large and lead either to a correct diagnosis or to reference of the case to one trained in urological diagnosis. Cases with one or more symptoms such as hematuria, pyuria, difficulty or frequency of urination, etc., comprise the largest part of the referred cases of the urologist who is not directly associated in practice with a group of physicians. Such cases include approximately but one-third of the urological field. Braasch recently stated "approximately one of every ten patients who registered at the Mayo Clinic submitted to cystoscopic examination and 5 per cent. of all the surgical cases were operated upon for lesions of the urinary tract. The majority of these patients, previous to examination at the clinic, had diagnoses of lesions other than those of the urinary tract and a surprisingly small number of the cases with lesions of the urinary tract had had correct diagnoses prior to their arrival at the clinic." A similar statement is also reported from the Montreal General Hospital. This condition is probable true of other closely allied or group organizations. It is obvious from this that a urological study is warranted in a greater percentage of cases than is usually recognized, and that a consideration of what may be considered conditions indicating urological investigation should be profitable.

It should be remembered that a urological investigation of a case may be a simple or complex procedure according to the difficulties of making the diagnosis. It may vary from the simpler procedures such as urine examination, estimation of renal function by the phthalien test, and determination of amount of residual urine, to complete roentgenographic studies, cystoscopy, differential studies of renal function, pyelography, etc. The extent of the examination and the type of diagnostic procedures employed will vary greatly according to the nature of the case and will at times require considerable judgment both as to the propriety of the procedure and as to the results obtained.

The indications for urological investigation may be summarized briefly but comprehensively as follows:

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1. Conditions frankly indicating urological lesions, pyuria, dysuria, difficult or frequent urination, etc.
2. Roentgenographic shadows suggestive of location in urinary tract.
3. History of previous pyuria, hematuria, or definite urological symptoms even in the presence of negative urinary findings.
4. Tumors of the supra-pubic and upper lateral abdominal area.
5. History of abdominal pain without definite evidence of disease in the intra-abdominal organs.

The order as given represents the frequency with which they are recognized as indications for urological investigation. Group one furnishes the largest majority of correct diagnoses or cases referred for examination. However, even in the group with frank urological symptoms, most of which have serious importance, the necessity of an exact diagnosis is not at times realized. Especially is this apt to be true in cases marked solely by hematuria as this may be of short duration and painless, so that when the urine is again clear a feeling of false security is created. The other symptoms of the group having less tendency to remission and often occurring together are more insistent of attention and receive more consideration than their silent companion.

The increasing use of the x-ray in diagnosis of abdominal pain has made more familiar the frequency shadows in the area of the urinary tract. Probably about 50 per cent of all such shadows in the renal areas are actually included in the kidney and, of these so included, only a small percentage are definitely recognizable as renal calculi from study of the plate alone. This accounts for the roentgenographic diagnosis of "doubtful or questionable shadows" in the renal or ureteral area. The identification or exclusion and localization of the shadow should be made by the urologist. Clinical history may either be misleading in these cases or admit of the making of a correct diagnosis, but the value of ureteral catheterization, with the resultant knowledge gained by differential functional tests of the kidneys, and by pyelography cannot be over-estimated.

The obtaining a history of previous urological symptoms such as hematuria and pyuria, especially if attended by bladder symptoms, is always worth investigating even in the presence, at the time, of a negative physical and urinary examination. If investigated these cases will yield an interesting variety of bladder and kidney tumors or closed pyonephrosis and other conditions.

Tumors of the supra-pubic and especially of the upper lateral abdominal areas are commonly seen without clinical data sufficient to make a

positive diagnosis. It is in this group of cases that the definite inclusion or exclusion of the tumors in the urinary tract from data obtained by cystoscopic examination becomes of the greatest aid to the diagnostician and surgeon. It is here that the negative urological examination, while always valuable in any case that seemed worthy of investigation, has its greatest justification.

Abdominal pain arising from the upper urinary system is frequently met with and, in the absence of pathological urinary findings, may cause embarrassment to the diagnostician. The anterior radiation of pain from retroperitoneal organs may closely simulate the pain that may come from appendicial or gall-bladder pathology, and in itself is an untrustworthy guide to correct diagnosis. The routine use of the roentgen-ray with the discovery of shadows in the urinary area calls attention to the urinary tract in a number of these cases, but fails to give assistance in others. Hydronephrosis with uninfected urine is the best example of the combination of abdominal pain, negative x-ray, and negative urinary findings that often leads to the incorrect diagnosis of an intra-abdominal lesion. A large majority of patients presenting themselves with a right hydronephrosis have previously been subjected to an abdominal operation, usually appendectomy, without relief of their complaint. Likewise, many cases of pyelonephritis are missed because of the failure of the examining physician to secure a microscopical examination of the urine (catheterized in the female), or to consider the importance of either the presence of but a few pus or blood cells in the urine or a previous urinary history.

A more general knowledge of the above indications for urological investigation should lead to a higher percentage of correct diagnoses in the community. A closer study of slight or indeterminate symptoms in urology, as in other lines, will lead to important diagnoses, and certainly will diminish the number of cases eventually to be recognized as urological because of the marked renal insufficiency that has developed. Serious renal and bladder conditions may develop to a marked or irremediable degree with only slight symptoms to call attention to their presence. It is not unusual to see a high grade renal insufficiency present in cases of pyelonephritis, and in bladder retention due to prostatic enlargement of cord lesions. Many of these have developed insidiously and without marked symptoms but more often the fault has been that slight deviations from normal were neither appreciated nor investigated.

It is true that following up these indications



will be attended with a large percentage of negative examination but this cannot be considered a serious objection. Cystoscopy in trained hands is a safe procedure, and, while perhaps an uncomfortable experience, can be rendered painless, even in the presence of pathology, by use of local and caudal anesthesia. The extent of the examination and of the use of the auxiliary aids such as pyelography must be determined by the urologist.

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308 Trimble Bldg.

## ADENOIDS AND EYE STRAIN IN SCHOOL CHILDREN—WHY MANY LEAVE SCHOOL

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Adenoids and eye strain symptoms in school children vary greatly in clinical manifestations and in pathogenizing tendencies at different periods and at different stages. Many of the worst forms are not easily apprehended and so remain unsuspected and permanently neglected. School authorities, as sponsors for the physical fitness of school children should leave no stone unturned to guarantee them every possible physical advantage, but certain precautions are necessary if this result eventuates. These defects if not discovered and corrected during school days, not infrequently cause the children to break in health, become discouraged and leave school, only to learn later, when the damage has become irreparable that it could easily have been averted, had it received proper consideration during school days. If school children of all ages were examined every three or six months in a well equipped office, and by a skilled medical man with plenty of time and adequate appreciation of the bearing these abnormalities have upon their future, it would conserve energy, health and future usefulness. Otherwise, the cursory school room examinations pass great numbers as normal, though seriously afflicted. The most pernicious class of adenoids are not the large ones that obstruct and cause mouth breathing, arrested development, or malnutrition, and which any novice may detect, but the small sclerosed growths that fill the bursa and Rosen Muellers Fossæ or cling in strands to the lips of the Eustachian orifices and other points in the pharyngeal vault, in conjunction with hypertrophied membranes lining the nasal passages, the vault and the Eustachian tubes.

These produce a most profound influence over the function of hearing, and are pernicious,

chiefly because neglected. They consist of remnants of either an imperfectly operated adenoid or an incompletely atrophied Luschka's tonsil. The author recalls hearing Prof. Adam Politizer frequently admonish his students to never neglect examination of the nose and throat when diagnosing ear diseases.

The above described type present the most common etiologic factor in the production of catarrhal deafness in children and young adults. Ample authority exists for the statement that the majority of those seeking relief in late life from progressing deafness, present this condition, as a mute evidence of neglect in childhood days. Such cases should be operated upon before instituting ear treatment, at whatever age, if permanent results are to be secured.

Likewise the eyes—it's not how much one sees, but how. If, in order to secure normal distant vision, the subject must employ the intrinsic ocular muscles, a resulting eye strain ensues. Slight errors of refraction exert a more pernicious and pronounced influence over the general nervous system than do larger ones, since these continuously and unremittingly overwork the ciliary muscles. Visual acuity being good, these defects are not easily detected, or even surmised, and require skill, experience, and fine technique to discover. Moreover these call forth innumerable forms of neuroses, ranging from indigestion, constipation and general nervousness to chorea, nocturnal enureses, melancholia, mental instability, hysteria and insanity. Thus forcing many from school into menial occupations or criminal and vagabond lives. This class of cases are more common than those with larger and more easily discerned refractive errors, but are less frequently detected. These later afford poor vision but good health, and cause little or no pain or distress, referable to the eye, and which anyone without medical training may diagnose, but slight errors though inversely profound in their influence over the general nervous system are not to be detected without employment of a mydriatic in conjunction with delicate instruments in the hands of those experienced and skillful. These young people see much, though not well, experiencing few symptoms distinctly referable to the eye itself, but suffering systemic disturbances of a much wider scope and of a far more ominous significance. The origin of which, not infrequently, neither patient nor family physician divines, since their sight has caused them to be passed as visually normal. These matters are of grave consequence to public welfare and should not be relegated to the care of those unprepared

by education or training to appreciate the situation, or do it justice. The asylums and lower walks of life are filled with practical evidences of these facts, and herein lies the tragedy.

School children should be frequently examined for adenoids and eye strain, and by an experienced man with adequate equipment. Since eyes change often in the young and adenoids are frequently unsuspected, the most pernicious class from the viewpoint of the child's future escape detection because the examiner lacks experience, ability, time and means for making a thorough and practical medical examination.

#### SUMMARY

Adenoids that pass unnoticed are not the large obstructive ones which any novice may discover, but the submerged and sclerosed growths which do not obstruct: do not cause mouth breathing, nasal stenosis or restricted development. These are more commonly found in children ranging from ten to fifteen years of age and upward and the older the more profound their influence over hearing.

They consist of strands and tufts of sclerosed lymphoid tissue attached to the Eustachian orifices and other points in the vault and extending even into the tubes in conjunction with hypertrophied and hyperemic vault membranes composed of remnants of either imperfectly atrophied or imperfectly operated adenoids. Authors agree that 85 per cent of ear diseases have their origin in the vault due to conditions as herein described.

This type constitutes the most common and fruitful etiologic factor in the production of defective hearing in young adults and those of middle and old age. Therefore it is an injustice to the child to be led to believe itself normal in these regards and to later discover the damage irreparable.

The author in conjunction with many prominent in this line of work, finds these conditions in the majority of those who later in life apply for relief from progressing deafness. These should be operated upon before instituting treatment for catarrhal deafness, even at the ages of sixty and seventy years.

#### STATE MEDICAL LIBRARY

About 130 new books have recently been added to the library. Miss Van Zandt, the librarian, expresses herself much pleased at the interest manifested by the profession of Iowa in reference to books and journals.

#### TESTIMONIAL DINNER FOR DR. JAMES TAGGART PRIESTLEY

One of the pleasant incidents connected with the first annual clinic of the Polk County Medical Society was a testimonial dinner given by the county society to Dr. James Taggart Priestley, at the Hotel Fort Des Moines, on October 18, 1922, in recognition of his faithful and distinguished services as a practitioner of medicine.

Doctor Priestley graduated in the medical class of 1872 of the University of Pennsylvania, so that he has completed a half century of medical practice, and all but one year of this period was spent in Des Moines.

Dr. A. P. Stoner, president of the Polk County Medical Society, acted as toastmaster in a most gracious and pleasing manner.

The toast "Doctor Priestley the Physician" was responded to by Dr. Charles Lyman Greene of St. Paul, and it will be of interest to give an outline of his toast.

Dr. Charles Lyman Greene, St. Paul:

#### PRIESTLEY, THE PHYSICIAN

Mr. President, Ladies and Gentlemen:

Not long since curiosity moved me to seek in "Webster" the definition of "middle-age." To my amazement I found that the term covered that period lying between the ages of thirty and fifty—youth had flown—middle-age had passed and all unwittingly, and without a pang, I had achieved the threshold of "old age."

This state is understood to carry an obligation to accept it gracefully and a boon in the form of unlimited retrospection. The latter will be exercised freely tonight, as affording the best means of attaining an understanding of some of the elements entering into the building of the character of that great and good man whom we all love and honor.

Born in 1852 and entering upon the practice of medicine twenty years later, Doctor Priestley has enjoyed the privilege of seeing such stupendous growth, progress and achievement in his chosen profession as no sane mind of a previous generation could have conceived, or even envisioned in a dream.

The year of his graduation 1872, was little more than two decades removed from the date of the introduction of ether and chloroform. The surgeons of his day no longer operated (deftly and with feverish haste) upon terror-stricken, cruelly agonized, shrieking and imploring victims, bound to the operating table or forcibly held down by assistants, but nevertheless, the miracle or induced painless slumber had not widened greatly the surgical field nor saved the patients from septic poisoning.

Pus abounded, erysipelas stalked ever abroad and slew annually its tens of thousands—while gangrene all too frequently, made the hospital wards a place



of horror and a stench to the nostrils. In the case of major operations, only the lucky survived. Even in the late eighties I heard the learned and skillful professor of surgery in one of America's greatest medical schools discourse learnedly upon the virtues of the then inevitable "laudable" pus and the unfortunate characteristics of the "damnable" variety.

Incidentally he furiously abused Lister and all his words. Yes, vilified and help up to scorn that lion hearted, gentle and infinitely modest man who even then had brought to mankind such a gift of healing as no other perhaps ever has bestowed.

Going to London in 1890 after my graduation, I walked the wards with that great investigator and discoverer, my father's very dear friend, and saw the magical workings of his primitive carbolic spray—associated with what I recognized with astonished amusement as a somewhat imperfect adherence to the strict canons governing surgical cleanliness already established and taught by the best of his disciples in our own country.

In certain other great London hospitals one even then shrank appalled at the operative slovenliness of men whose names he had been taught to revere. For these, the abdominal cavity, the joints and the brain should have been forbidden territory still—for such as these the compound fracture still spelled death to the victim.

In their wards, gangrene, septicemia and pyemia abounded. In those of Lister they were but hateful memories.

Medicine in the early seventies was affording only faint glimmerings of promise for the future. Malaria was still "marsh miasm" a thing of mystery, its cause and prevention unknown. Typhoid fever, its etiology unknown, and but newly differentiated from typhus by Louis, was killing its hosts without let or hindrance. Neither the prevention nor even the diagnosis of tuberculosis had passed the rudimentary stage of development, and the results of treatment were almost nil. The presence of lues venerea was suspected only when active and out-spoken symptoms were present.

The "black-death" still a thing of mystery, slew its hundreds of thousands in epidemic waves sweeping at will, unhampered and unchecked from time to time over the Orient, Japan and the Philippines, now happily almost free from its ravages. Yellow fever and Asiatic cholera frequently visited our shores and left behind a ghastly army of the dead. Indeed, Asiatic cholera was with us in the year of Doctor Priestley's birth and in those represented by his sixteenth and seventeenth birthdays.

Many of the medical men here present remember the horrors of diphtheria in those pre-antitoxin days. The dreadful feeling of helplessness and futility that possessed us—our unavailing efforts to save little children, dying agonizing deaths, from the disease of which we knew next to nothing. An enormous death rate from puerperal fever was another of the trag-

edies of this period and what could be sadder, more pathetic, more heartbreaking, than the passing of the beloved wife and mother in the act and bringing her child into the world. A reading of the family records of those days makes clear the significance of the special prayer for "women in the perils of childbirth."

But why extend the list? Our knowledge of disease lacked then the one prime requisite to accurate diagnosis and treatment—namely, a knowledge of its cause. The rapidity of our advance in fifty years is little appreciated by the younger generation of medical men.

Every student and more recent graduate should pick up somewhere a volume on medicine or surgery published in the late sixties or early seventies and after perusing it give thanks to God for the greater opportunities that he has enjoyed. Let him consider prayerfully and thankfully also the fact that in those days hospitals were few, unsanitary, and miserably equipped, and any general diffusion of properly trained nurses wholly lacking.

Any adequate knowledge of "public health" was not then to be had even by the physician and such truths as he had learned were in the main impossible of application by reason of a hostile public opinion born of the greater ignorance of the laity.

Quacks flourished and abounded to an extent unknown today and the nostrum venders plied their lucrative trade and preyed upon a gullible public without let or hindrance—free to advertize any claims, however false, and to include in their precious mixtures any sort of habit-forming drug.

In 1872, medical education had advanced but little and the best of our teaching institutions gave their instruction almost wholly through didactic lectures of the flamboyant, oratorical and declamatory type. Such bedside teaching of groups and individuals as now exists was practically unknown. Laboratories were crude and laboratory methods sketchy and ineffective. Even in the late eighties it was difficult to find a decently conducted course, even in applied physiological chemistry.

The promise of a great dawn to come even then was reflected from only a few of the highest peaks.

Entrance requirements were ludicrous in their simplicity and for the most part, purely a matter of form. The desire to be a physician was about the only prerequisite to admission. Even in my later day, the students of medicine and law were looked upon as a "race apart" by academic students and professors and, by college landladies, as "parties" to be given food and shelter only when need pressed and even then with doubts and forbodings too often well founded. Indeed, this attitude in the main was justified, yet both groups abounded in sincere and earnest men—men of ability, of force and of determination.

Most of them had worked hard and sacrificed greatly to get to college and brought with them high ambition and a fine loyalty to their future pro-

fession. Nearly all who could stay on and pay their way by work or money were graduated after a short course, and once off the campus, could practice where they liked, for state examining boards were then unknown.

Each and everyone of these must have gained his knowledge of actual practice by using his early patients as his individual material for hazardous clinical experiments had it not been for the old time system of "preceptorship." All students were supposed to be under the guidance of some active practitioner of medicine, and upon his ability, interest and teaching efficiency, depended in large measure the practical attainments of the disciple at the time that he was turned loose by his medical school upon an innocent and unsuspecting world. The old system in this one respect was admirable, and many a practitioner still living thinks with grateful appreciation and sincere affection of the busy man who gave him more than his school could give and instilled the highest concepts and noblest precepts of that profession which we all love and honor.

Have I drawn too gloomy a picture of the early seventies? Yes, for although, judged by the vast sum of accumulated exact knowledge that we now possess, the ignorance of that time seems appalling. It is true, nevertheless, that a great amount of useful knowledge had been accumulated and beautifully formulated and, furthermore, that fact after fact of great importance was being added almost daily.

All over the world enthusiastic investigators were seeking and establishing new truths—isolated primarily, perhaps, but destined oftentimes when set in its proper relationship to other truths to form a link in the chain leading to some revolutionary discovery. The physician knew much of drugs and their action, and a vast amount about symptoms. The art of physical diagnosis was developing, the stethoscope had come gradually into its own, a considerable amount of physiology was crudely taught, pathology had its beginnings, and the surgeons of that day whether clean or dirty, were splendidly swift, fearless operators and knew their gross anatomy.

Furthermore, many of the medical men of Dr. Priestley's early years of practice, though lacking most of the diagnostic aids now available, were within their limited field, truly remarkable diagnosticians and clear and convincing teachers. They were keen observers and made their special senses serve them better perhaps than does the present more modern and more highly endowed generation. It was felt that great progress—a vast fund of new knowledge lay in the near future—almost within grasp, and at no time did there exist a more eager and receptive body of medical men.

When one considers these conditions present in 1872 he must indeed realize that in medicine and surgery alike it was a day of "shining lights." Special ability and aptitude, whether combined with, or lacking, opportunities above those of the mass, tended to

throw certain commanding figures into strong relief.

Indeed the presence of great numbers of utterly wretched and worthless medical schools, the lack of proper requirements for entrance and for graduation alike in all resulted in a low average of attainment and made such commanding figures giants indeed.

When, in 1874 your beloved physician came to the little far-western town of Des Moines from the conservative and prim atmosphere of Northumberland, Pennsylvania, he brought with him not only those attributes which made for medical distinction, but certain others which all too many of the giants of those days lacked.

Like them he loved his profession. He gloried in its past achievements and was full of faith for its future. Ever alert, he never allowed the great wave of scientific progress to engulf him but rode upon its crest, an earnest tireless student, during every year of his half century as a physician. He was imbued with the spirit of service and filled with the desire to carry health and healing with him wherever and whenever opportunity called.

He was ready to give his best to sick and poor alike and to hazard health and even life daily in the course of duty. The spirit of mercy abounded in him and he gloried in good deeds modestly and quietly achieved.

Guiding and inspiring him in his professional work was a code of ethics, tintured with imperfections born of the stress of the times, much abused then, as in later years, by those unworthy ones whom it harassed and stung, but one, nevertheless, which embodied the very soul of altruism, good works and just dealing.

It would appear that Doctor Priestley made his strong impress upon his community early and that it deepened with the passing years.

It is obvious also that he won quickly the respect and affection of his medical colleagues and ever has stood for high ideals, harmony and progress in the profession of the state.

To serve was his aim—to advance his profession one of the impelling desires of his life, and his achievements in the betterment of medicine have been evidenced not only within his own city and state, but nationally as well.

He is possessed of breadth of view and openness of mind, is an invincible optimist, a man of high resolution, resourceful, fearless and determined, honest, upright, steadfast, wise and just.

But what are those added qualities which have so endeared him to his townsmen and his fellows in the medical profession—what attributes have made him the beloved physician to be honored and feted without stint by laymen and physicians alike upon the completion of a half century of service?

They are such as would further ennoble what would otherwise be the filthiest and most ignoble of callings—plus certain more intimate personal gifts that lend themselves less readily to description. We know that no man can win such affection unless he



is unselfish, ever helpful, and full of love for his fellowman. To hold such love in his heart, he must have achieved a keen sense of humor, a broadminded tolerance, charity, a deep understanding of human nature, a broad humanity and a noble generosity in thought and deed.

If to these rare attributes we add the qualities of modesty, gentleness, tenderness and understanding sympathy and to these again that mysterious "gift of the Gods" which we term "personal charm" and recognize as the true reflection of sweetness of soul, we may better understand why Dr. James Taggart Priestley has become to his medical colleagues and to his people not only "the beloved physician," but guide, counsellor, and friend.

Doctor Priestley, I congratulate you upon having so happily attained the age of three score and ten—upon your good work and great achievements in and for the profession of medicine. I felicitate you upon carrying into a well earned and honored retirement the abounding love and gratitude of your people, and, with all honor and respect to that great discoverer, your illustrious ancestor, Doctor Joseph Priestley, I can not hold yours the lesser achievement.

The toast "Doctor Priestley, His Relation to our Medical Society" was responded to by Dr. A. P. Stoner the president, and he referred particularly to Doctor Priestley's long and faithful services in developing the County Medical Society, his great influence in elevating professional ideals, and promoting the best of relations with the younger men of the society. In conclusion he presented to Doctor Priestley a silver loving cup as a tribute of affection on behalf of the Polk County Medical Society.

In response, Doctor Priestley spoke as follows:

It is a rather novel sensation to attend one's own wake.

I fully realize the truth of the opening stanza of that matchless rimester's (Byron) "Inscription on the Monument of a Newfoundland Dog."

"When some proud son of man returns to earth,  
Unknown to glory, but upheld by birth,  
The sculptor's art exhausts the pomp of woe,  
And storied urns record who rests below;  
When all is done, then upon the tomb is seen,  
Not what he was, but what he should have been."

There is no man so devoid of Ego that he would not be deeply impressed by this extraordinary expression of friendship and esteem.

A half century among you has given ample opportunity for my faults to become known, and one's escapades are generally well remembered, and frequently mentioned. You certainly have had in mind that charitable motto of the Elks:

"The faults of our friends we write upon the sands—their virtues we inscribe upon the tablets of love and memory." Or that true test of a wife's love—

to know the faults of her husband, and to overlook them.

An old man's stories generally begin with "I," and end with "me." Garrulousness is a pronounced symptom of senility, although the most marked symptom is the inability to recognize one's own senility. Bearing this fact in mind, I shall try to avoid being tedious, stimulated by an incident that occurred during my early youth. A dearly beloved old Scotch Presbyterian clergyman, who was my tutor for many years, and perhaps may be responsible for what, in these Volstedian days, is considered an unpardonable sin, was my companion on a tour over his native heaths, in Scotland. I had to awaken him frequently from his slumbers, while on his knees at the bedside, and lift him into his bed, after a strenuous day of ministerial work. His ejaculatory expletives, while I was so engaged, sounded remarkably like a continuation of his prayer, R. I. P. Once, while he was preaching in the little old school Presbyterian church of my native town, the long-winded second prayer had been finished, and the elders were passing the plates for the financial contributions, when a thrifty old parishioner arose and was trying to make his exit unnoticed. The preacher spied him, however, and spoke in a stentorian voice, "Some men have no charity," and the old parishioner turned and answered, "Na, na, it is not that at all, but ye are so teajous."

When I had my first introduction to Des Moines the population was 12,000. The old capitol stood south of the present one, a small brick building, and there were two bridges across the Des Moines river. These were both toll bridges, and the toll to cross either of them was ten cents a huge sum in those days. Fortunately, the river was fordable, and you may be sure that I forded the river whenever it was possible to do so. A street car ran from the west end of Court avenue, at the court house, to East Seventh and Court. It was built by a pioneer M.D., and the motive power was "Maud," assisted in the muddy season by the pushing power" of the kind, lovable old doctor.

The medical profession was represented by several excellent men, some of them of a brainy type. All have gone except that old Nestor, Dr. Field, even then using his microscope in microphotography. Many of us had the opportunity, within a few years past, to see what remarkable work he did in the early seventies. My admiration for him was boundless, for, when I was a student at the University of Pennsylvania in 1872, we had but one microscope for a class of five hundred. To look into it was the ambition of every student in the class, and when the learned professor focussed it on some tube casts, and invited the class to come to see them, the onrush was so great that the tube casts and microscope, together, were on the floor before one student had had an opportunity to take a look. By persuasion, I induced my grandmother to buy me a microscope, a "Queen," and then there were a "pair of queens," my

grandmother and the scope. This was her graduation present to me.

The great Rawson was one of the leading men at that time—he gave me my first lesson in thrift. I was assisting him in an operation, in which the sutures were silver wire. As he cut the ends of these silver sutures, the small pieces which remained were carefully laid aside. Curiosity compelled me to ask him why he hoarded these so carefully, and he replied that he sold them to the silversmith. The Rawson block at Eighth and Locust, and a handsome fortune besides, was the reward for his thrift and capability.

Dr. Hanawalt was the best railroad surgeon that I ever knew, beloved by all his clientele, and saved more badly injured hands and feet than I imagined could be possible.

Then came Dr. Smouse, who learned all of his surgery by working it out on his patient, and soon became one of the most brilliant surgeons in the state. He retired too early for his own happiness and the good of humanity.

Soon after came Schooler, one of the best minds we ever had in the profession, and were it not for presbycusis, would be enjoying this reminiscence talk of mine. The spirited controversies between him and his wonderfully brilliant confrere Woods Hutchinson, which occurred every night that the Polk County Medical Society met, in some physician's office, or in the room of the "Overseers of the Poor" (a touching heart to heart coincidence to most of us) at the court house, were as entertaining as the most bloody bull-fight in the bull-ring at Madrid.

As the city grew, the profession grew with it. One of the most pleasing remembrances of my life is a letter that Dr. Page wrote to me when he removed from the East Side, in which he made reference to the fact that in all our years of competitive practice on that side of the river, there had never been an unkind word between us, or an unpleasant incident of any kind. A most accomplished, kindly man, always a gentleman, and a worthy sire to a worthy, accomplished son, our present Dr. Page.

One of the most active workers in the Society in those early days was our friend Doctor Cokenower, and who has ever since kept up his active interest in both county and state society affairs. Dr. A. M. Linn was the first homeopathic physician of prominence to come to Des Moines, and he is now associated with us in all our best endeavors. The lovable Patchen had a charm that will always be remembered. Many will remember the brilliant Dr. Swift, who tarried with us for a while, then left us for a practice in Connecticut, where I believe he is still at work. In the later development of our medical school we welcomed the great surgeon, Doctor Fairchild, who stimulated the best of medical work, and is now the capable editor of our State Journal. In more recent years our beloved Bierring came to live among us, and we have all taken a personal pride in the honor that was extended to him during the past

year by the Royal College of Physicians of Edinburgh.

The hospitals came, at first, primitive, but now the peers of those in any city of our size in the country. Five large hospitals, all standardized, thanks to Allah and the unfailing efforts of that tireless worker, who often had to use the big stick, the brainy and brilliant Pearson.

Our old friend, Dr. Amos, who gave so many years of tireless service to his many patients, has returned to the city, to be with us again.

It is impossible to mention all of the scholarly, resourceful men who at present represent the medical profession in our city. I want to thank you one and all for the kindly fellowship that you have extended to me, and I know that there is not one of you that I could not grasp by the hand and call a friend.

Like unto Solomon, who, in all his glory, surrounded by all his people, the beasts of the field, and the fowls of the air, was offered a cup filled with the water of eternal life. He asked, "Is there water enough for my friends?" and the angel said, "No, only enough for you alone." He still hesitated as to whether he should partake of the draught, when Boutimar, the wild dove, the most loving of all birds said, speaking in the tongue of birds, known to Solomon only among mortals, "Oh, Prophet of God, how couldst thou desire to be living alone, when each of thy friends, and of thy counsellors, and of thy children, and of thy servants, and all those who love thee, are counted among the dead? For all of these must surely drink of the bitter waters of death, though thou shouldst drink the waters of life. Wherefore desire everlasting youth, when the face of the world itself shall be wrinkled with age, and the eyes of the stars shall be clouded by the black fingers of Azrael? When the love that thou sung of has passed away like the smoke of frankincense, when the dust of the heart that beats against thine own shall have long been scattered by the four winds of heaven, when the eyes that look for thy coming shall have become a memory, when the voices grateful to thine ear shall have been eternally stilled, when thy life shall be one oasis in a universal waste of death, and thine eternal existence but an eternal recognition of eternal absence—will thou indeed care to live, though the wild dove perishes when his mate cometh not?" And Solomon, without reply, silently gave back the cup filled with the water of eternal life. But upon the prophet king's beard, besprinkled with powder of gold, there appeared another glitter of as clear dew, the diamond dew of the heart, which is tears.

Again I want to thank you all for the great pleasure you have brought into my life, and particularly you, Dr. McCarthy, my dear foster son, who came into my life and have so wonderfully filled the aching void in my heart, caused by the loss of your companion, my own brainy, brilliant, beloved doctor son. Thank you.



## PHYSICIANS ACTIVE IN PUBLIC HEALTH WORK

### Field Activities Committee of State Medical Society in Cooperation with other Organizations— County Medical Societies to Boost Christmas Seal Campaign

W. L. Bierring, M.D.

A short time ago the work and purposes of the Field Activities Committee of the Iowa State Medical Society and its new director, Doctor F. E. Sampson, formerly of Creston now of Des Moines, were introduced by Doctor Walter L. Bierring, chairman of the committee, in a letter to county medical societies. Shortly following that the Sunday Register and Tribune carried on the first page a copy of this letter and a long article relating to Doctor Sampson's work under a double column heading. This was an excellent piece of publicity and an old newspaper man remarked that it was the best advertising that the medical profession has ever received in Iowa. And it was legitimate advertising too. Publicity of this sort and many other services are being secured through cooperation which is being established by the Field Activities Committee with other state agencies interested in public health, particularly the Iowa Tuberculosis Association and the State Conference of Social Work.

As a further instance of the value of such cooperation Doctor Sampson is now on an extended speaking tour throughout the state of which itinerary many of the dates have been made through local public health associations consisting of laymen as well as physicians. In communities where he has been invited to speak to county medical societies the local lay health groups on the suggestion of the State Tuberculosis Association are arranging joint meetings.

In view of this movement to correlate the medical profession with public health activities a description of the Christmas seal campaign and its purposes will be of interest.

On December 1, twenty-four million Christmas seals will be placed on sale by health workers throughout every county in Iowa.

The proceeds are used locally for various forms of public health promotion such as nursing, nutrition classes, the modern health crusade and other health work in the schools, tuberculosis and child welfare clinics, open air schools, free dispensaries and permanent clinics, milk lunches for school children, instruction for mothers in the care of babies, prenatal care, fresh air camps, distribution of health literature, exhibits and other means of health education.

A minor share goes to the State Tuberculosis Association, which uses it for the campaign against tuberculosis and for educational health work similar to the local forms; and five cents on the dollar supports the national anti-tuberculosis movement.

The design of the sticker is a radical departure from those used in previous years. It is symbolical

of the present interest on the part of health workers in the mother and child. It shows in the foreground a mother holding a child, while in the background is a Christmas tree lined against a sky whose hue is the now fashionable periwinkle blue. Over the center of the tree is the emblem of the world-wide movement to eradicate tuberculosis, the bright red double-barred cross. At the bottom of the seal are the words "for health."

The seal was drawn by T. M. Cleland, a celebrated artist, and was approved by a committee of national



and state officials with the advice of Richard S. Back of the Metropolitan Museum of Art and Heyworth Campbell, art editor of the *Nast Publications*. The Metropolitan Museum declares that the 1922 seal is the best ever produced in the fifteen years history of the National Tuberculosis Association.

The posters, designed by Ernest Hamlin Baker and the Ethridge Association of artists, are also especially attractive. One will make a strong appeal to school authorities and to school children, as it shows a beautiful child standing at a blackboard writing, "The good they do depends on you," the sentiment evidently referring to the seals which decorate the Christmas packages lying at his feet.

This year's campaign is based on hard facts—the showing in dollars and cents of the measurable value of public health work.

That every child born today may expect to live two and one-half years longer than if born ten years ago is a fact established by the records of the United States Census Bureau's department of vital statistics. Every year the average span of human life is increased.

In a bulletin aptly entitled "Lengthening Life," the Metropolitan Insurance Company shows how it has added to the life expectancy of its insured white males five years in the last decade and in the case of white females four years. It attributes this result to the public health work which it has done over this period along three lines: education of its policyholders for disease prevention, teaching of health habits to children, and public health nursing. It

frankly admits that it has made money—getting more premiums from live people and saving more principals of policies on those who would have been dead than it spent for visiting nursing, distribution of health literature and instruction in health habits of children and adults.

It further asserts that the decrease in the general death rate mentioned above is due primarily to the work of health agencies, public and private.

Most striking of all, it continues, is the retreat of the "White Plague." Since the National Tuberculosis Association was founded in 1905, with the State Associations later in quick succession, the tuberculosis death rate has declined from 201 per 100,000 to a life gain of 43 per cent.

Is disease prevention a good insurance policy?

Listen to the tale of two little cities in our neighboring state of Illinois. In one there was spent for health purposes in a year three cents per capita—in the other eight cents for each person. In the former the economic loss in the year from preventable communicable disease was \$41.40 for every man, woman and child—in the latter it was \$17.45 per capita. The second city spent five cents more and saved \$23.95.

Is spending for community health wise statesmanship—and shrewd politics?

The children of the great open country are not so healthy as the children of the crowded cities, says the Service Bulletin of the Extension Division of the University of Iowa. It shows in graphic diagram form that figures collected from nearly 3000 rural and city schools reveal higher percentages of physical defects among the rural school children examined than among the city school children.

Tuberculosis also is more prevalent among both children and adults in the country.

Why is all this?

The cities spend twice as much from the public treasury for public health. Many city schools have medical and dental inspection—open air rooms—gymnasias—and organized recreation. Still more to the point is the fact that voluntary agencies supported by private contributions do all sorts of public work—maintain visiting nurses, school nurses, child welfare nurses, tuberculosis nurses—establish free dispensaries, and clinics both for diagnosis and treatment—run fresh air summer camps—furnish milk lunches to school children—and unceasingly through the spoken and printed word reiterate the gospel of good health.

The city is organized for health—the country is mostly unorganized—and it can be shown county by county that where there is an active county public health association with a working program and some even though scanty funds to work with, health conditions are better than in those counties where the citizens have not banded together for their own welfare and the health of their community.

Is building for the future health of the individual a good investment?

The Iowa Tuberculosis Association has gathered figures for the past three school years on 227,000

children examined for physical defects, with the following result:

Defects	Year 1918-19	Year 1920-21
Teeth .....	60%	39%
Tonsils and adenoids.....	55%	29%
Underweight .....	60%	32%
Vision .....	12%	12 plus %
Hearing .....	5%	4%

These children attended schools where the Modern Health Crusade, a system of teaching health habits, was used.

Does health education pay?

This marvelously successful sixteen years' drive against tuberculosis has been supported entirely by the sale of the Christmas seal. In the state of Iowa the proceeds of seal sales are used for all forms of public health work, with the stress upon child health.

"Every seal you buy," said a business man the other day, "adds a definite fraction of time to the span of human life."

The Christmas seal is the symbol of a nation-wide crusade against ill-health—it binds together quarter section, village, city, state and nation in a constructive common cause, that of all for health and health for all.

Every seal with its gay Christmas colors, adorning a gift which the postman carries from friend to friend, is a message of hope and health and a sign that the sender has a care for the welfare of his neighbors and his community.

Every seal on the back of an envelope helps stamp out human ills.

The billion seals which health workers hope will be bought—and used—this December will add "years to life and life to the years we live."

Des Moines, Iowa, July 6, 1922.

Hon. N. E. Kendall,  
Governor, State of Iowa, Des Moines, Iowa.  
Iowa State Board of Health

Dear Sir:

I have the honor to submit the report of the Bureau of Venereal Disease Control for the year ending June 30, 1922.

The state appropriation for the year was \$25,000 and the expenditures were as follows:

Administration .....	\$ 5,323.06
Laboratory .....	8,006.70
Treatment .....	5,081.09
Education .....	6,589.15
Total.....	\$25,000

Fourteen clinics were maintained during the year in the following cities: Des Moines, Dubuque, Clinton, Fort Dodge, Mason City, Grinnell, Sioux City (2), Ottumwa, Council Bluffs, Marshalltown, Davenport, Manly, Iowa City; these were supported by the local counties or cities, with the exception of the clinic at Iowa City which is supported by the state; the medication was furnished by this Bureau.



On June 30, 1921, there remained under treatment at the various clinics 508 cases; and during the year new cases were admitted and treated, classified as follows:

	Syphilis	Gonorrhea	Chancroid
Male .....	408	430	22
Female .....	319	239	..
Total.....	727	669	22

The total number of consultations, treatments and visits were 31,039. The total number of doses of arsphenamine or neo-arsphenamine administered was 7761.

In addition to the work of the clinics, private or city physicians administered free of charge 1406 doses of arsphenamine or neo-arsphenamine and 298 doses of mercury to indigent patients suffering with venereal diseases, the medication being furnished by this Bureau.

Through the activities of this Bureau, a large number of cases were sent to the State University Hospital and were treated by Dr. N. G. Alcock.

There were 24,891 Wassermann tests made, of which 4168 were positive, the balance being negative or rejected. There were 2,209 gonorrheal tests made of which 332 were positive.

Adair .....	49	Green .....	9
Adams .....	6	Grundy .....	7
Allamakee .....	38	Guthrie .....	1
Appanoose .....	124	Hamilton .....	24
Audubon .....	7	Hancock .....	30
Benton .....	46	Hardin .....	51
Blackhawk .....	686	Harrison .....	9
Boone .....	150	Henry .....	60
Bremer .....	48	Howard .....	5
Buchanan .....	479	Humboldt .....	1
Buena Vista .....	72	Ida .....	35
Butler .....	104	Iowa .....	53
Calhoun .....	141	Jackson .....	51
Carroll .....	189	Jasper .....	336
Cass .....	63	Jefferson .....	62
Cedar .....	18	Johnson .....	479
Cerro Gordo.....	236	Jones .....	90
Cherokee .....	430	Keokuk .....	17
Chickasaw .....	12	Kossuth .....	28
Clarke .....	53	Lee .....	1206
Clay .....	32	Linn .....	1227
Clayton .....	3	Louisa .....	15
Clinton .....	372	Lucas .....	17
Crawford .....	73	Lyon .....	27
Dallas .....	23	Madison .....	2
Davis .....	3	Mahaska .....	40
Decatur .....	25	Marion .....	277
Delaware .....	22	Marshall .....	181
Des Moines.....	150	Mills .....	28
Dickinson .....	32	Mitchell .....	3
Dubuque .....	174	Monona .....	58
Emmet .....	33	Monroe .....	102
Fayette .....	166	Montgomery .....	25
Floyd .....	51	Muscatine .....	213
Franklin .....	18	O'Brien .....	67
Fremont .....	35	Osceola .....	3

Page .....	301	Taylor .....	6
Palo Alto .....	21	Union .....	40
Plymouth .....	74	Van Buren .....	*
Pocahontas .....	55	Wapello .....	142
Polk .....	7307	Warren .....	*
Pottawattamie .....	236	Washington .....	37
Poweshiek .....	94	Wayne .....	14
Ringgold .....	*	Webster .....	355
Sac .....	10	Winnebago .....	5
Scott .....	786	Winneshiak .....	21
Shelby .....	70	Woodbury .....	1151
Sioux .....	19	Worth .....	23
Story .....	135	Wright .....	77
Tama .....	11		

\*Not utilizing laboratory.

The physicians of the state reported to the secretary of the State Board of Health 926 cases of syphilis, 2043 cases of gonorrhea and fifty-eight cases of chancroid.

Dr. Jeannette F. Throckmorton gave 543 lectures reaching 100,525 women and girls in 143 cities and towns of the state, requiring 410 speaking hours. Also by invitation of the president, Dr. Throckmorton spent two days lecturing to the students of Sioux Falls College, South Dakota. Lectures were given to high school girls, college women and women in industry and business.

The total number of pamphlets distributed in response to requests from individuals, schools, lecturers and field workers was 27,543.

The venereal disease slides and charts were shown twenty days during the months of August and September at the state and county fairs. The total number viewing these exhibits was 100,000; and there were 15,000 pamphlets distributed during these fairs. There were forty-three film showings made with a total attendance of 16,600.

There were ninety-eight individuals reported to this office as sources of infection by the physicians of the state of which forty-one were apprehended and placed under treatment. There were thirty-five cases referred to this department from other states and nineteen were apprehended and placed under treatment.

Beside the regular correspondence, personal letters were sent out as follows: 99 county attorneys; 64 judges of the district courts; 739 mayors of cities and towns (two letters); 739 city health officers (two letters); 200 social workers; 250 public health nurses; 99 county health officers; 1000 rural school teachers.

There will be a federal allotment of \$5,116.84 for the coming year; the state appropriation is \$25,000, making a total of \$30,116.84 available for carrying on the work of venereal disease control.

The following recommendations are made for the work for the coming year; that, in view of the fact that the federal government has subsidized the Bureau of Venereal Disease Control of the State of Iowa in the amount of \$5,116.84, the State of Iowa subsidize the clinics of Iowa to a sum not to exceed \$400, and the same to be contingent upon the local community spending, at least, double the amount

they are subsidized; and also contingent upon the size of the town and the work of the clinic; that the director and the secretary of the State Board of Health be authorized to inaugurate a method of paying said money toward the support of the various clinics, and that this subsidy be used to encourage other of the large cities to establish clinics.

The director at the request of the Public Health Service submitted a proposed budget for the coming year which is as follows:

Administration .....	\$ 4,800.00
Treatment .....	15,600.00
Educational Work .....	8,716.84
Repressive Measures .....	1,000.00
Total.....	\$30,116.84

Respectfully submitted,  
**WILBUR S. CONKLING,**  
 A. A. Surg., U.S.P.H.S.

The starving condition of Russian doctors in the famine areas, where their help is badly needed, is seriously interfering with a vitally important medical program drawn up by the American Relief Administration officials for the benefit of the hunger-stricken population. Cholera, typhus, malaria, dysentery and other skin and stomach diseases consequent on malnutrition, are rampant, all through the Volga river basin, where 30,000,000 people are in acute need, if not in danger, due to the failure of last summer's crop. An absolute dearth of medical supplies at first hampered the work of the American Relief Administration, but a grant of \$3,000,000 in cash from the American Red Cross for the purchase of stocks as well as a further gift of \$700,000 worth of surplus material made, eliminated this difficulty. Now the call is for personnel which Russia herself can supply, if only food enough can be found to keep the workers themselves fit.

"We urge consideration of the possibility of securing general relief in the form of food remittances for doctors," the American Relief Administration cabled recently from Moscow. "This is one of the most urgent needs to assist the general Russian situation. We can only secure the best results for our large and vitally important medical program by using to the maximum extent the Russian doctors whose condition especially in the famine areas is desperate. Telegraphic advice of general relief donations for this purpose to make it as far-reachingly effective as soon as possible would have wonderful results. I don't know of any greater service that our contributors could do than come through right now with generous donations for this purpose."

These food remittances which can be bought at the American Relief Administration offices, 42 Broadway, New York, call for the delivery to designated individuals in Russia of packages, each costing \$10, containing 117 pounds of nourishing food. This includes flour, rice, cocoa, sugar, cooking fat, tea and condensed milk, sufficient in each package to keep an adult well fed for one month. Should the donor

in America not know of any individual to whom he or she wishes to send such a gift, the remittance can be made payable to general relief, the beneficiary to be chosen by the A. R. A. after personal investigation of his needs.

Already the Jewish Joint Distribution Committee, in reply to the A. R. A., appeal on behalf of doctors, has appropriated \$25,000 to be spent on remittances for their relief.

With the available appropriations of \$20,847.12, a new division of extension is being added to the University, a division to be known as that of Maternity and Infant Hygiene.

Under the Sheppard-Towner act Governor Kendall appointed the State Board of Education as the agent through which the law was to be administered. The State Board of Education has passed on to the University the burden of the work.

Dr. O. E. Klingaman as director of the new division presented to the delegates of the Public Health Conference the plan of the organization and the relation of public health education and the Sheppard-Towner act.

"The budget," he said, "calls for the employment of two women physicians and one man physician who is to be a competent pediatrician, certain clerical help, and some printing. Much of the work of this division of Maternity and Infant Hygiene has been done by the Extension Division in its public health education and will be supplemented quite largely by the Extension Division. For this reason, the director of the extension division is also director of the Division of Maternity and Infant Hygiene.

"Nurses and medical men are the two agencies through which our work will be largely done. Ignorance of the provisions of the Shepard-Towner Act is responsible for any opposition it has met from practicing physicians.

"The work is purely educational. We are not permitted to take children from the home or to place prospective mothers in hospitals. Neither are we permitted to employ nurses or physicians for anyone. It is assumed that we will be permitted to work in clinics with children under five years of age for this fiscal year, but after that period the work must be confined to children under one year."

The advisory council to the new department is made up of the following persons: Professor of obstetrics; dean of the college of medicine; professor of pediatrics; professor of dietetics in the college of medicine; professor of nutrition in the child welfare research station; director of the child welfare research station; director of the school of public health nursing; director of the extension division.

The appropriations made by Congress for the present fiscal year are as follows: \$5 unmatched to each state in the Union; and to Iowa (provided the sum is matched) \$26,637.16. The extension division does not have sufficient funds to match the \$26,637.16, but when the legislature convenes in January it is expected that the deficit will be provided for.



# The Journal of the Iowa State Medical Society

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## VIEWS OF THE LAY PRESS ON DR. de SCHWEINITZ' ADDRESS OF ACCEPT- ANCE AS PRESIDENT-ELECT, A. M. A., ST. LOUIS

It is recognized as the duty of the state to provide fundamental education for all citizens but that the special training for special callings and professions should be provided for by the individual himself. On reasonable grounds it would appear that if the state provides considerable funds for the professional education of a certain class, the state is entitled to a certain amount of service in return. This applies to a certain degree to the medical profession. It is well known that a considerable part of the expense of a medical education is borne by the state, that is, by the public. This being true the public has a right to expect a certain amount of service in return, a fact that is accepted by the real physician, but often forgotten by the purely commercial doctor. The state, however, does not forget, and the organs of public opinion—the lay press—take it upon themselves to keep the public reminded, so when a great leader in the profession makes a public address, the press measures up his saying and offers them with its own opinion for the benefit of the public. Therefore, when a high official in the American Medical Association appears before the public the press brings the salient points to the attention of the greater public. Dr. George E. de Schweinitz rendered

the medical profession and the public a service in drawing attention to the relation between the medical profession and the public, not that the new age in medicine means altogether improved methods in treatment, but a new policy towards the public in the application of science. As remarked by the Wisconsin Medical Journal, "Some physicians have resisted professional progress in this line. They would abolish community hospitals and health centers and maintain the strictly private relation which consists of treatment when the doctor is called."

It must be admitted that a "transition from individual to organized practice has begun, and that the movement is rapidly spreading," which means that progressive leaders recognize the public attitude toward acquired rights of some of the benefits of medicine as belonging to humanity, not all to the doctors.

This attitude of the profession to the public does not mean less professional income, indeed, the respect and confidence in the ideals of the profession will increase the number seeking medical service.

## PROPOSED TARIFF ON MICROSCOPES AND SCIENTIFIC APPARATUS

The "Fordney Tariff Bill" (H. R. 7456), introduced in the House of Representatives on June 29, 1921, provides an increase to the following rates: (a) microscopes, photo apparatus, projection apparatus, field glasses, optical and scientific instruments, 35 per cent, ad valorem; (b) abolishes the privilege to educational institutions of importing scientific instruments free of duty.

The latest form of Tariff Bill H. R. 7456, reported by Mr. McCumber on April 11, 1922 (now before the senate committee on finance), reads as follows: Azimuth mirrors, sextants and octants; photographic and projection lenses, opera and field glasses, telescopes, microscopes and other optical instruments and frames and mountings for the same, 55 per cent, ad valorem (120 per cent increase over the present rate). Paragraph 360, page 77, reads as follows: Philosophical scientific, and laboratory instruments, apparatus, utensils, appliances (including drawing and mathematical instruments), parts thereof, composed wholly or in chief value of metal, surveying instruments and parts thereof, 55 per cent ad valorem (120 per cent increase over the present rate). Paragraph 1531, page 216, does not provide for duty free importation of scientific instruments of educational institutions, therefore automatically cancels this privilege.—The Boston Medical and Surgical Journal.

## IOWA STATE UNIVERSITY NEWS NOTES

Don M. Griswold, M.D., Iowa City

The annual volume of "Collected Studies and Reports" of the College of Medicine has just been issued. This volume contains twenty-eight papers submitted by the various members of the faculty of the college of medicine, and represents a contribution of the faculty toward the advancement of medical science.

Miss Edna Reitzel has been detailed by the department of home economics to the department of internal medicine, to make advanced studies on nutrition.

Dr. Ruth Okey has resigned from the biochemical laboratory of the University Hospital, to take up teaching work in nutrition at the University of California.

The student health department have finished examining all candidates for athletic teams that represent the University and are taking the annual examination of all freshmen students. This examination is conducted along the lines of the work of the life institute and is intended to give the entering student a proper perspective and interest in his individual health. This includes a clinical examination of heart, lungs, reflexes, and a laboratory examination of the urine, throat, culture, blood-pressure, etc.

Dr. C. S. Chase, for many years in the department of pharmacology, is now engaged in extension work for the University Hospital, and the college of medicine. This work takes Dr. Chase about the state where he meets many of his friends and former students. Information concerning the educational advantages of the college of medicine, and the training school for nurses, can be obtained through Dr. Chase.

Dr. Verne C. Graber has recently been appointed clinical microscopist in the department of internal medicine.

Miss Mildred Brown has been promoted to research assistant in the biochemical laboratory.

Dr. Arthur Steindler, professor of orthopedic surgery has returned from an extended trip to Central Europe. While there he visited many of the large clinics where American physicians are attending, and can give first-hand information to any Iowa physicians regarding the present opportunities for clinical work in Central Europe.

During the summer, President Vincent of the Rockefeller Foundation, together with a group of his advisors, visited the medical college and hospital of the University, and made a careful and thorough

investigation into the facilities for medical education as they exist here.

Dr. Robert Funston finished a three-year post-graduate service in orthopedic surgery, and has gone to Detroit to begin the practice of that specialty.

Harry Mettlock Hines, for some years assistant in the department of physiology, has received his Ph.D. and has been made assistant professor of physiology.

Miss Edna Bell has taken up her work on the biochemistry of nutrition, at the children's hospital. For some years she was associated with President Mendel of the nutrition laboratory at Yale.

Miss Margery Coast is now in charge of the basal metabolism laboratory under the direction of Dr. G. P. Howard.

Miss Lelah E. Booher, until recently at the University Hospital, has gone to the post-graduate hospital of New York City where she will be assistant to Dr. Victor E. Meyers.

Dr. A. J. Lomas, superintendent of the University Hospital has just returned from attending the national meeting of hospital superintendents at Atlantic City.

Dr. Harry Dahl, hospital chemist, has received an appointment as a Fellow at the Rockefeller Institute in New York City where he will carry out researches begun here.

Miss Josephine Creelman, who was associated with the nurses' training school here until six years ago, has returned and is now superintendent of nurses.

The first year class in the nurses' training school, shows a total enrollment of fifty-four. Three of these girls are college graduates, one has had three years of college work, one, two years, and four others have had one year of college work. Two others are graduates of normal schools, and two more have had two years of normal training. The others are all graduates of accredited high schools, from this or neighboring states. The nurses' training school is being called on each year for an increasing number of registered nurses, who are college graduates, or who have had college training, and it is necessary to have this many or even a larger number, to fill vacancies for nurses with this training.

Dr. Samuel T. Orton of the State Psychopathic Hospital spent his summer vacation on a walking and fishing trip through Montana.

Dr. Vernon Cone has been made research assistant in the department of neuropathology of the Psychopathic Hospital.



### MEDICAL NEWS NOTES

Dr. D. C. Steelsmith, and Dr. W. J. Connell of the Dubuque city and county health department, have returned from Iowa City where they attended the state medical conference, held there. The feature of the meeting was the general favor shown for the system of public health work being employed in Dubuque county.

Doctors all over the state were present at the gathering. Dr. Steelsmith, health director, Dubuque, was slated for two talks on the program. His address on county health work was particularly well received.

A resolution was passed, recommending the president of the State University, the secretaries of the board of health and the board of education, that a course for public health experts be introduced at the State University.

Meeting to revise rules and regulations of the Iowa State Board of Health, numerous prominent Iowans assembled at the office of Dr. J. J. Hinman, Jr., chief of the water laboratory division of the state board, and an S. U. I. faculty member.

The board members were Dr. Charles S. Grant of Iowa City; President Frank T. Launder, Garner; Secretary Rodney P. Fagen, Des Moines; H. C. Eschbach, Albia; H. Griefe, Des Moines; and H. V. Pedersen, Des Moines, sanitary engineer.

Dr. Frantz of Burlington, has started a movement to induce Congress to take some means of exterminating the Mosquito fly that has become such a nuisance along the river during the past years. Don't say how they are going to do it, but will probably get an injunction against their congregating in any large numbers.—Donaldson Review.

Dr. G. G. Cottam, Sioux Falls, South Dakota, presented a report of the veteran bureau committee, recommending the removal of Gen. C. E. Sawyer, President Harding's official adviser, as chief of the federal board of hospitalization on the ground that General Sawyer is out of sympathy with the work of the veteran bureau.—Rock Rapids Review.

George Vincent of New York City, president of the Rockefeller Foundation, was in Iowa City August 17 spending the day in conferences with President Walter A. Jessup of the University.

He arrived late from Creston, and will return to New York August 18. He and President Jessup spent part of the day inspecting the University Hospital and the college of medicine.

It was reported that President Vincent was here in the interests of the Rockefeller Foundation in connection with a proposed appropriation to the medical department of the University, but President Jessup stated that Mr. C. Vincent was here on a friendly visit.

Mr. Vincent has visited several other hospitals before coming to Iowa City, and left the one at Creston only yesterday.

The exact nature of the benefit, which the University may derive from the Rockefeller Foundation could not be determined August 17, although the office of Dr. L. W. Dean, dean of the college of medicine, gave out information that Mr. Vincent was inspecting the medical department on behalf of the connection with a proposed donation.

Dr. Dean and Mr. Vincent were together part of the day with President Jessup, and ate lunch together.—Iowa City Republican.

### WORKMEN'S COMPENSATION LAW IN NEW YORK AMENDED

One of the most important amendments is the elimination of the sixty-day limitation for medical treatment of injured workmen, and a requirement that the employer furnish to his injured employee medical care and treatment for as long as the nature of the injury requires.

### SOCIETY PROCEEDINGS

#### Appanoose County Medical Society

The Appanoose County Medical Society met at Centerville October 20 at which time a children's clinic was conducted by Dr. Albert Byfield of Iowa City. So successful and valuable to the members was this clinic that at the business meeting following, it was decided to hold an all day clinic, both medical and surgical, November 15 at St. Joseph's Hospital, Centerville. The work of Dr. Byfield was highly appreciated by the society. At the banquet following, a musical program was enjoyed.

#### Buena Vista and Plymouth County Medical Societies

Members of the Buena Vista and Plymouth County Medical Societies were entertained by the Cherokee County Medical Society. Those who attended from this county were Dr. J. H. O'Donoghue and E. F. Smith of Storm Lake, F. C. Foley and M. A. Armstrong of Newell, C. S. Van Ness of Linn Grove and J. W. Morrison of Alta.

Dr. Van Ness of Linn Grove gave a talk on "General Management, Clinical Features."

#### Greene County Medical Society

Greene County Medical Society met Friday, July 28, 1922, at the home of Dr. and Mrs. B. C. Hamilton, Sr., following attendance at the Tubercular Clinic. A picnic supper was enjoyed, following which Dr. John Peck of Des Moines gave a very instructive talk on care and treatment of the tubercular.

The following were present. Drs. Kester and Reed and wives of Grand Junction; Dr. Shipley of Rippey; Dr. and Mrs. Waddell of Paton; Drs. Cresler, Spear and wives of Churdan; Dr. Presnell of Scranton; Drs. Hoyt, Hamilton, Jr., Dean, Hamilton,

Sr., and wives of Jefferson; Dr. John Peck of Des Moines.

#### Johnson County Medical Society

At a meeting of the Johnson County Medical Society held September 13 at Iowa City, Dr. C. E. Van Epps read a paper on Encephalitis; Dr. W. F. Boiler, on Strabismus, and Dr. P. A. Reed, Fads and Fancies in Obstetrics.

On October 25 the members of the society were the guests of the Oakdale Sanitarium, Dr. H. V. Scarborough, superintendent. Dr. Cunningham read a paper on Tuberculosis of the Intestines. Dr. Scarborough did a pneumothorax and clinical cases were presented for inspection of the members.

L. G. L.

#### Jones County Medical Association

The Jones County Medical Association held an unusually successful meeting at the John McDonald Hospital. Interesting addresses and discussions were given before the association by Drs. Erskine and Crawford of Cedar Rapids, and Dr. Charles Ryan of Des Moines. Following this part of the program a business session was held, at the close of which a buffet luncheon was served to the members of the medical association by Mrs. Gladys Smith and the nurses of the hospital. The doctors who were present at the meeting were Dr. William Breen of Oxford Junction, Dr. Post of Olin, Dr. H. G. Hejninian, Dr. W. W. Hunter, Dr. Sigworth and Dr. Dolan of Anamosa, Dr. Stookey of Olin, Dr. H. Sigworth of Waterloo, Dr. Taylor of Prairieburg, Dr. Knight, Dr. Erskine of Cedar Rapids, Dr. Charles Ryan of Des Moines, and Drs. T. M. Redmond, P. E. Gibson, Harry McGarvey, George Wenzlick and W. J. Cochrane of Monticello.

#### Pocahontas County Medical Society

At a recent meeting of the Pocahontas County Medical Association Dr. A. W. Patterson was elected president, and Dr. A. P. Maloney, secretary.

#### Tama County Medical Society

Doctors and their wives to the number of about fifty enjoyed the mid-summer meeting of the Tama County Medical Society which was held Wednesday afternoon, July 19, at Toledo, starting with an elaborate 1 o'clock dinner in the home dining room.

Program followed the dinner, Dr. A. A. Pace, president of the organization, presiding. Dr. Jacob Breid talked on some of the Indian problems of today, and Dr. W. F. Hamilton of Marshalltown discussed "Congenital Pyloric Stenosis," presenting exhibits of several cases operated on for correction of this difficulty. Dr. C. Van Epps of Iowa City talked on the subject "Encephalitis."

#### Van Buren County Medical Society

The Van Buren County Medical Society held its fourth annual picnic Friday, July 14, at Chautauqua

Park, Farmington. About 100 were present, including doctors, their families and friends. Physicians were there from Ottumwa, Keokuk, Burlington, Mediapolis, as well as nearly every doctor in Van Buren county. Dinner was served cafeteria style about 1 o'clock, after which the following program was given.

Peptic Ulcer, Dr. L. A. Coffin of Farmington; Diagnosis of Troubles in Lower Right Quadrant, Dr. C. R. Armentrout of Keokuk; Infections of the Hands, Dr. C. H. Magee of Burlington.

#### Upper Des Moines Medical Association

Wednesday, July 19, the members of the Upper Des Moines Medical Association held their annual meeting at the country club near Arnolds Park. About thirty physicians from Palo Alto, Emmett, Dickinson and Clay counties were in attendance. Those who were present from this county were Dr. Hennessey and Dr. Brereton of Emmetsburg, Dr. Houston of Ruthven, and Dr. Morrison of Ayrshire.

The program was as follows:

Duty of the Medical Profession to the Public, Dr. G. C. Fuller, Milford.

Anomalies of the Esophagus, Dr. Thos. Kas, Sutherland.

Address of President, Dr. E. W. Sproule, Peterson.

Some Problems of Infant Feeding, Dr. J. D. Geisinger, St. Paul.

Dr. Gessinger is a specialist on infantile ailments. He practiced at Spirit Lake for several years.

Aneurysm of Abdominal Aorta, Dr. M. T. Morton, Estherville.

#### Iowa Surgical Society

The Iowa Surgical Society met with Dr. W. A. Rohlf of Waverly July 29. There were about twenty surgeons present.

#### AMERICAN SURGICAL ASSOCIATION

At the annual meeting of this association in Washington, D. C., recently, Dr. Lewis L. McArthur, Chicago, was elected president; Drs. Ellsworth Eliot, Jr., New York and Dr. Donald C. Balfour, Rochester, Minnesota, vice-presidents; Dr. Robert B. Greenough, Boston, secretary, and Dr. Charles H. Peck, New York, treasurer. The next meeting of the association will be held in Rochester, Minnesota, in June, 1923.

#### HOSPITAL NOTES

Dr. Conreid Rex Harken of Osceola, a former Iowa City physician and surgeon, is planning to remodel his hospital, in that city, and make it one of the finest institutions of its type in Iowa as to equipment and arrangement.

The structure, three stories high, will be raised



three feet above its present foundation, and will be reconstructed from basement to roof.

W. L. Steele, Sioux City architect, has been commissioned by the building committee of the Sisters of Mercy Hospital at Cedar Rapids to design a new building there, the cost of the structure to be approximately \$250,000.

The proposed building will increase the capacity of that hospital from 100 to 200 beds. Construction will be entirely of fireproof materials, with all modern conveniences. Brick, steel and reinforced concrete will be used throughout.

Mr. Steele will plan the new part of the hospital so that it will be the most convenient and sanitary arrangement that can be had.

Actual building operations will start in the fall, with expectations of the project being finished next year.

Funds already have been subscribed to pay for the completion of the structure.

### Standardizing of Hospitals Urged

A plea for the standardization of the hospitals of America was voiced last evening by Dr. L. D. Moorehead, dean of Loyola Medical College, Chicago, and vice-president of the Catholic Hospital Association of the United States and Canada. Dr. Moorehead spoke to the medical men of Waterloo at the annual staff dinner given by the Franciscan sisters in charge of St. Francis Hospital. Other speakers were Archbishop J. J. Keane of the Dubuque diocese, and Father P. J. Mahan, Chicago, president of the state conferences of the Catholic Hospital Association, the latter imparting much wholesome advice to the assembled physicians.

Mr. Moorehead stressed the need for standardization of American hospitals from the standpoint of its practical worth to the physician and other hospital workers as well as the great benefit the public would derive as a result. He declared there were but seventeen such standardized hospitals in America at present.

Archbishop Keane paid a wonderful tribute to the modern day physician and surgeon, who, through painstaking study and research work, have rendered such a great service to the human race. While the work of all hospitals was lauded by the speakers, each declared the sisters in Catholic hospitals, who labored without compensation other than that which comes in the fulfillment of their mission of love and sacrifice, were entitled to special credit.

Rev. H. P. Rohlman, Dubuque, was also a guest at the banquet as were the members of the Catholic clergy of this city. About thirty-five physicians and surgeons were in attendance and at the conclusion of the address a rising vote of thanks was given the speakers for their kindness in appearing on the program, and to the sisters for excellent entertainment and banquet they had prepared.

### PERSONAL MENTION

Dr. H. L. Wyatt and family have removed to the Orient. For some time he has been in the navy stationed at San Diego, California.

Dr. Guy B. Anderson has purchased the practice of Dr. J. E. Ballachy of Swea City.

Dr. M. H. Lynch formerly of Perry has purchased the equipment of the late Dr. Chas. B. Burke of Atlantic.

Dr. Herman Fischer of Burlington has moved to southern California. Dr. Fischer is a specialist in diseases of the eye, ear, nose and throat.

Dr. R. W. Henderson, a graduate from Iowa University medical school 1921, will locate at Lone Tree, Johnson county.

Dr. H. C. Yates formerly of Emerson has moved to Mount Vernon where he will continue in the practice of medicine.

Dr. W. A. Hodges has been transferred from the government hospital at Colfax to the hospital at Newport, Kentucky, and Dr. Graham has been transferred from Newport to Colfax.

Dr. H. F. Dunn of Stone City has located at Sibley.

Dr. C. A. Brandt of Dysart has sold his practice and office equipment to Dr. W. C. Wagner of Traer.

Dr. T. J. Plase recently graduated from the Iowa State University School of Medicine will locate in Washington, Iowa.

Dr. T. J. Burke, who has sold his practice, will soon move to Wichita, Kansas. Dr. Burke has practiced in DeWitt twenty-two years. Dr. and Mrs. L. O. Riggert of Omaha, Nebraska, who recently purchased the practice of Dr. T. J. Burke will move into the Elder cottage in West DeWitt.

Dr. L. L. Henninger of the firm of Drs. Dean and Henninger, Council Bluffs, for the past twelve years, has accepted a partnership with Dr. J. R. Reed of Pasadena, California. Mrs. Henninger and two children will accompany Dr. Henninger west about October 20. Dr. Henninger is entering a much larger field with increased business opportunities. Los Angeles was Mrs. Henninger's home and she has a father and two sisters living there at this time. Dr. L. G. Howard, who has been one of the firm for the past year and a half will continue his association with Dr. Dean.

Dr. H. B. Jennings, for many years physician in Council Bluffs announced August 10 that he would retire from practice at once. He has been practicing in this city for thirty-three years and prior to that in eastern Iowa seven years.

Dr. Warden Rimels has recently located in Bedford.

Dr. E. W. Sproule of Peterson has sold his property and practice to Dr. E. A. Nash of Bristow and is taking a post-graduate course in Chicago after which he will locate in the West. Dr. Nash has also taken a post graduate course recently.

Dr. T. E. Powers of Clarinda was nominated by the republican central committee of Page county for

representative in the Iowa general assembly to succeed Representative J. H. Stimson, who died recently. The democrats have no candidate on their ticket for representative.

Lieut. T. F. Duhigg, U. S. N., will sail from San Francisco September 5 for a two-year cruise about the world with the Asiatic fleet of the United States Navy. His place here as examining surgeon for the naval recruiting office has been taken by Lieut. Zacariah A. Barker.

Dr. Gershom H. Hill, accompanied by Mrs. Hill and their daughter, Dr. Julia F. Hill, are motoring to points in Minnesota and will go to Lake Itasca before returning home.

Joseph Mayo of Rochester, Minnesota, son of Charles Mayo, one of the famous Mayo brothers of the Mayo hospitals at Rochester, Minnesota, is now taking pre-medic work at the University of Iowa and is expecting to continue the course next year.

Dr. and Mrs. R. H. Stafford and son, Howard, departed Monday morning, August 7, for their new home at Long Beach, California. Dr. Stafford will open a practice there.

Dr. C. Corbin Yancey of Chicago, has taken Dr. John W. Shuman's office suite in the Frances building, Sioux City, and will continue the practice of internal medicine, x-ray, diagnoses and consultation. Dr. Yancey is a graduate of the University of Chicago, where he received his degree of bachelor of science. He completed his medical course at Rush Medical College. He served as resident physician of the Allegheny General Hospital, at Pittsburgh, Pennsylvania, and has done other important post-graduate work. Miss Maud Fair, who has been secretary and technician for Dr. Shuman for nine years, will continue her work with Dr. Yancey.

Dr. George H. Scalon has returned from Harper Hospital, Detroit, Michigan, where he has been serving as an interne, during the last year. Prior to that he filled a similar position at Mercy Hospital, Iowa City. He is an alumnus of the college of medicine, S. U. I., class of 1921. He will locate in Iowa City, and will be associated with Dr. W. R. White, in the practice of medicine and surgery.

Dr. Lawrence Littig and his wife, who have spent their honeymoon at the home of Dr. Littig's mother, Mrs. L. W. Littig, have returned to make their home in Madison, Wisconsin. The wedding of these young people occurred in Rock Island on Saturday, July 22. The bride was formerly Miss Elsie Rosanske of Madison, Wisconsin, an alumnus of the University of Wisconsin, where Dr. Littig also attended school for a few years and where he affiliated with the Delta Upsilon fraternity. He received his degree from the college of medicine of the University of Iowa in 1921 and since that time has been an interne in the General Hospital in Madison. Now he is house surgeon at the same institution.

Dr. J. Vincent Smith, who for the past two years has been associated with Dr. Weston of Des Moines, has purchased the practice of Dr. M. H. Lynch, to-

gether with his office equipment, library, etc., and has located in Perry for the practice of his profession. He has leased the Lynch office building on Willis avenue.

Dr. Herbert Pease of Slater has removed to Webster City.

Dr. T. R. Campbell of Rolfe has located at Sioux Rapids.

Dr. W. J. Cochrane of Monticello has removed to Lake City, Minnesota.

Dr. L. S. Deitrich of Marengo has removed to Medford, Wisconsin, becoming a member of the staff of the Medford Clinic.

The Council has appointed Dr. A. C. Page, Des Moines, treasurer of the Iowa State Medical Society to succeed Dr. Thos. F. Duhigg, who resigned on leaving for a cruise with the Asiatic Fleet of the U. S. N., September 1.

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## OBITUARY

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Dr. B. C. Stewart of Ute died in a Lincoln, Nebraska, hospital August 13 from heart disease.

Dr. Sarah J. Weston a pioneer physician of Fort Dodge died at Fort Dodge August 1 at the age of eighty-one years. She came to Iowa in 1865, lived in Des Moines, Webster City and Fort Dodge.

Dr. Thos. Croston of Lucas died at his home August 19, 1922 at the age of seventy-six years.

Dr. Philip Francis Harvey, a former resident of Burlington, died June 5. He was one of the best known members of the medical staff of the United States army, seeing service in the Civil War, the Sioux Indian Wars, the Spanish American War and the Philippine insurrection.

He was seventy-eight years of age and was graduated from the State University of Iowa College of Medicine in 1864, was on the staff of the Bellevue Hospital Medical College, New York City, in 1866. He was a professor of surgery at the National University Medical Department, Washington, D. C., 1866 to 1868. He was a member of the Association of Military Surgeons, Society of Foreign Wars and the Society of the Army of the Potomac.

He spent a useful, busy life in the army service and was retired in 1908.

Dr. D. W. Swigert, the pioneer physician of Fremont county, passed away at his home in Hamburg, Saturday afternoon at the age of ninety-one.

He was a graduate of the St. Louis Medical College and took post-graduate work in the Rush Medical College and Bellevue Medical College of New York.

Dr. M. F. Hannelly died at his home at Mt. Ayr at 10:30 o'clock Monday night August 9, after an illness of over a year. He was raised in Ringgold county, and has been practicing medicine at Mt. Ayr



for a period of twelve years. His illness which thus terminated in his death, was occasioned by Bright's disease.

Albert Franklin Bonney was born in Canada, August 5, 1863, died at his home in Buck Grove, June 30, 1922, aged sixty-eight years and eleven months. He was the eldest son of Charles S. Bonney and Mary Greenleaf Bonney. His early years were spent with his parents in New York state and Pennsylvania. As a young man he came to Iowa and in 1880 was married to Miss Fannie O'Neill at Dubuque, Iowa. To this union four children were born.

Dr. Bonney was a man with an exceptionally brilliant mind. He was a very successful physician for years until his health failed, and he was obliged to give up active practice. Of late years he has devoted the winter months to literary pursuits and the summer time to bee keeping. He was president of the Iowa Beekeepers Association for several years and was considered an authority on that industry all over the world. He was a very successful writer, not only of fiction, but of heavy scientific articles. He has been in gradually failing health for a year.

Dr. F. J. Drake, fifty-three years old, for twenty-six years a resident physician of Webster City and prominent in religious, social, and lodge circles, was found dead in his office about 10:30 o'clock September 1.

Franklin J. Drake was born October 4, 1869 in Kingsville, Ontario, Canada. He was the son of Joseph and Sarah Drake and his mother died at his birth. Two years later, his father, then a practicing physician and surgeon removed from Canada to Mt. Vernon, Iowa, and there resided until his death in 1906. His education was obtained in the public schools of Mt. Vernon and in Iowa Wesleyan University at Mt. Pleasant. Later he took a medical course in the Chicago Homeopathic Medical School of Chicago, graduating from this in 1895. Immediately after this, he located in Webster City and the same year was married to Miss Edna E. Smith, the daughter of Rev. and Mrs. Samuel C. Smith of the Methodist Church of Mt. Pleasant.

Dr. John Aaron Rawlins, son of Lemmon Parker and Julia Rawlins, was born at Gulford, Jo Davess county, Illinois, April 20, 1866. His common school education in Guilford was followed by work in the German-English Normal School in Galtna and two years' study in the State Normal School, Normal, Illinois, after which he took the three years' medical course at Rush College at that time required for a degree in medicine, graduating in February, 1888, at the age of twenty-two. The next three years' he worked with Dr. Albert Green of Shullsburg, Wisconsin, where he established a home, having married in 1889, Miss Carrie Livonia King, of Warren, Illinois. In 1892 Dr. and Mrs. Rawlins moved to Chickasaw county, Iowa, which proved to be the chief scene of the next twenty-nine years of his service as a physician; thirteen years at Bassett; four

and a half years at Clear Lake, and ten years at Ionia. This long period of activity was interrupted only twice: first, when he pursued a course of clinical instruction in the Chicago Policlinic, for which he received a certificate of completion in December, 1897; and again after the residence at Clear Lake, when he traveled and rested for a year in Colorado. Dr. Rawlins had been more or less subject to asthma complicated with emphysema and this together with the strain due to the overtaxing of his strength during the influenza epidemic caused a break in his health that led to his withdrawal from active practice about two years ago, 1920. In the hope of recuperating he lived quietly for a time in Charles City, then moved to Davenport where he erected an attractive house of Queen Ann style, and looked forward to spending the remainder of his life.

## MARRIAGES

Dr. H. C. Hibben, formerly of Davenport and Miss Marjorie McCollins of Davenport, were married at Dubuque, July 22, 1922.

Dr. Lola Clark Mighel and Mr. Glenn Kenderdine were married in Cedar Rapids, July 29 at the home of Rev. Burkhalter, who read the marriage service. Both Mr. and Mrs. Kenderdine are residents of Iowa City and graduates of the University of Iowa in law and medicine respectively.

In addition to the articles enumerated in our letter of September 1, 1922, the following articles were accepted during August:

H. K. Mulford Company:

Mercurialized Serum No. 2—Mulford.

Mercuric Succinimide Hypodermic Tablets No. 50.

Parke, Davis and Company:

Adrenalin and Cocaine Tablets Rx B.

Adrenalin Tablets No. 2.

Brometone Capsules, 5 grains.

Tuberculin (old) and Control for the Von Pirquet Test.

Tuberculin Ointment for the Moro Test.

During September the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

H. A. Metz Laboratories:

Novocain and L-Suprarenin Tablets "H".

Novocain Solution, 1 per cent.

Novocain Base.

Novocain Nitrate.

Pyramidon Tablets.

United States Radium Corporation:

Ampules Radium Chloride 2 Cc—U. S. Radium Corp. (Radium element, 5 micrograms).

Ampules Radium Chloride 2 Cc—U. S. Radium Corp. (Radium Element, 10 micrograms).

Ampules Radium Chloride 2 Cc—U. S. Radium Corp. (Radium element, 25 micrograms).

Winthrop Chemical Company:

Ferec—Sajodin.

## CONSTITUTION AND BY-LAWS OF THE IOWA STATE MEDICAL SOCIETY

### CONSTITUTION

#### ARTICLE I

##### Name of the Society

The name and title of this organization shall be the Iowa State Medical Society.

#### ARTICLE II

##### Purposes of the Society

The purpose of this Society shall be to federate and bring into one compact organization the entire medical profession of the State of Iowa, and to unite with similar associations in other states to form the American Medical Association, with a view to the extension of medical knowledge and to the advancement of medical science, to the elevation of the standard of medical education and to the enactment and enforcement of just medical laws, to the promotion of friendly intercourse among physicians and to the guarding and fostering of their material interests, and to the enlightenment and direction of public opinion in regard to the great problems of state medicine; so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

#### ARTICLE III

##### Component Societies

Component societies shall consist of those county medical societies which hold charters from this Society.

#### ARTICLE IV

##### Composition of the Society

Section 1. This Society shall consist of Members, Associate Members, Delegates, Guests, and Life Members.

Sec. 2. **Members**—The members of this Society shall be the members of the component county medical societies.

Sec. 3. **Delegates**—Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Society.

Sec. 4. **Guests**—Any distinguished physician, not a resident of this state, may become a guest during any Annual Session upon invitation of the Society or its Council, and shall be accorded the privilege of participating in all of the scientific work for that session.

Sec. 5. **Life Members**—Life members shall consist of such members in good standing as shall have

paid their full annual dues, and all other obligations to the Society, for thirty successive years, and of such other worthy members as the Society may designate by unanimous vote. They shall receive the transactions of the Society, and enjoy all the privileges of members, but shall be excepted from payment of the annual dues.

Sec. 6. **Associate Members**—Teachers in any regular medical school, resident in Iowa, in no manner engaged in the practice of medicine, and not otherwise eligible to regular membership, may become associate members of this Society, when elected as associate members of the component society of the county in which said teachers live. Such members shall be designated associate members; they shall enjoy the same privileges as regular members and shall be subject to the same conditions.

#### ARTICLE V

##### House of Delegates

The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1), delegates elected by the component county societies, and (2), ex-officio, the officers of the Society as defined in this Constitution.

#### ARTICLE VI

##### Sections and District Societies

The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections; and for the organization of such councilor district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

#### ARTICLE VII

##### Sessions and Meetings

Section 1. The Society shall hold an Annual Session, during which there shall be held daily not less than two general meetings, which shall be open to all registered members, delegates, and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

#### ARTICLE VIII

##### Officers

Section 1. The officers of this Society shall be a President, two Vice-Presidents, a President-Elect, a Secretary, a Treasurer, eleven Councilors and three Trustees.

Sec. 2. The President-Elect and Vice-Presidents shall be elected for a term of one year, the Secretary and Treasurer for three years, and the Councilors for five years—the Councilors being divided into classes so that two shall be elected each year. The Trustees shall be elected for three years, one



each year. All these officers shall serve until their successors are elected and installed.

Sec. 3. The officers of this Society shall be elected by the House of Delegates on the morning of the last day of the Annual Session, but no delegate shall be eligible to any office named in the preceding section, except that of the Councilor and Trustee, and no person shall be elected to any office who is not in attendance upon that Annual Session and who has not been a member of the Society for the past two years.

Sec. 4. At the election of officers at the session of 1915 there shall be elected a President who shall enter upon the duties of his office at once, and also a President-Elect who shall enter upon the duties of the Presidency one year later. Thereafter, the President-Elect shall enter upon the duties of the Presidency one year from the date of his election.

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## ARTICLE IX

### Funds and Expenses

Funds for meeting the expenses of the Society shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publications. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Sessions, for publication, and for such other purposes as will promote the welfare of the Society and profession.

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## ARTICLE X

### Referendum

At any general meeting the Society may, by a two-thirds vote, order a general referendum upon any question pending before or passed by the House of Delegates, and the House of Delegates shall, by a similar vote of its own members, or after a like vote of a general meeting, submit any such question to the membership of the Society for a final vote. A majority of the members voting shall decide the question and be binding on the House of Delegates.

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## ARTICLE XI

### The Seal

The Society shall have a common seal, with power to break, change, or renew the same at pleasure.

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## ARTICLE XII

### Amendments

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at the Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and shall have been published in the Journal of this Society.

## BY-LAWS

### CHAPTER I

#### Membership

Section 1. All members of the component county societies shall be privileged to attend all meetings and take part in all of the proceedings of the Annual Sessions, and shall be eligible to any office within the gift of the Society.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, or a receipt for dues for the current year from the Secretary or Treasurer of the county society to which he belongs, shall be prima facie evidence of his right to register at the Annual Session in the respective bodies of this Society.

Sec. 3. No person who is under sentence of suspension or expulsion from any component society of this Society, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of its proceedings until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the component society of which he is a member. No member or delegate shall take part in any of the proceedings of an Annual Session until he has complied with the provisions of this section.

Sec. 5. For the purpose of medical defense a member shall be regarded as in good standing only when his dues have been received by the Secretary of the State Society; nor shall any member under suspension or expulsion be eligible to the benefits of the medico-legal fund for any alleged wrongful act while under suspension or expulsion.

Sec. 6. If the annual report and the per capita apportionment of any component society is not received by the Secretary of the State Society for two consecutive years, then the charter of that society shall be automatically revoked, and the Secretary of the State Society shall notify the Secretary of such society to that effect.

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### CHAPTER II

#### Annual and Special Sessions of the Society

Section 1. The Society shall hold an Annual Session at such time and place as has been fixed at the preceding Annual Session by the House of Delegates.

Sec. 2. Special sessions of either the Society or the House of Delegates shall be called by the President at his discretion or upon petition of twenty delegates.

Sec. 3. The fiscal year of this Society shall be the calendar year.

### CHAPTER III

#### General Meetings

Section 1. The general meetings shall include all registered members, delegates, and guests, who shall have equal rights to participate in the proceedings and discussions, and, except guests, to vote on pending questions. Each general meeting shall be presided over by the President, or in his absence or disability, or by his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President and the annual orations, and the entire time of the session, so far as may be, shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The general meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers, and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Society, except those of the President, Guests, and Orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than once on any subject.

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### CHAPTER IV

#### House of Delegates

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Society, and shall so fix its hours of meeting as not to conflict with the first general meeting of the Society, or with the meeting held for the address of the President and the annual orations, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as it is consistent with their duties. But if the business interests of the Society and the profession require, it may meet in advance, or remain in session after the final adjournment of the general meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year, one delegate for every fifty members, and one for each major fraction thereof, but each county society holding a charter from the Society, which has made its annual report and paid its assessment as provided in this Constitution and By-Laws, shall be entitled to one delegate.

Sec. 3. A majority of the registered delegates and officers shall constitute a quorum; and all of the meetings of the House of Delegates shall be open to members of the Society.

Sec. 4. It shall through its officers, advisory, and councilors, consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession and shall use its influence to secure and enforce all proper medical and public health legislation and to diffuse popular information in relation thereto.

Sec. 5. It shall make careful inquiry into the condition of the profession of each county in the state, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the state, who can be made reputable, has been brought under medical society influence.

Sec. 6. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 7. It shall, upon application, provide and issue charters to county societies organized to conform to the spirit of this Constitution and By-Laws.

Sec. 8. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies, and these societies, when organized and chartered, shall be entitled to all the privileges and representation provided therein for county societies, until such counties may be organized separately.

Sec. 9. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

Sec. 10. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

Sec. 11. It shall present, through the Secretary, a summary of its proceedings to the last general meeting of each Annual Session, and shall publish the same in the transactions.

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### CHAPTER V

#### Election of Officers

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect.



Sec. 2. On the first day of the Annual Session, there shall be selected a **Committee on Nominations** consisting of eleven delegates, one from each congressional district. Such committee shall be selected by the delegates of each congressional district in separate caucuses, and such caucuses shall at the same time select the member of the Council for the same district. It shall be the duty of this committee to consult with the members of the Society and to hold one or more meetings at which the interests of the Society and the profession of the state for the ensuing year shall be carefully considered. The committee shall report the result of its deliberations to the House of Delegates in the shape of a ticket containing the names of three members for the office of President-Elect (in 1915 President also), and one member for each of the other offices to be filled at that annual election. Two candidates for President-Elect shall not be named from the same county.

Sec. 3. The report of the Nominating Committee and the election of officers shall be the first order of business of the House of Delegates, after the reading of the minutes, on the third day of the general session.

Sec. 4. Nothing in this article shall be construed to prevent additional nominations being made by members of the House of Delegates.

## CHAPTER VI

### Duties of Officers

Section 1. **President:** The President shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the state during his term of office, and as far as practicable shall visit, by appointment, the various sections of the state and assist the Councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. **Vice-Presidents:** The Vice-Presidents, when called upon, shall assist the President in the performance of his duties, and during his absence, or at the request of the President, one of them shall officiate in his place. In the case of death, resignation, or removal of the President, the vacancy shall be filled by the Senior Vice-President beginning with the first. They shall perform all other duties prescribed for that office.

Sec. 3. **Treasurer:** The Treasurer shall give bond in such sum as shall be determined by the Board of Trustees; such bond to be procured from some reliable security company by the Trustees and to be approved by the Board of Trustees. The expense of procuring such bond shall be paid by this Society, and the bond shall be held by the Board of Trustees. All

surplus money in the hands of the Treasurer shall be placed at interest in some bank approved by the Board of Trustees, or invested in United States bonds, and **such interest shall be turned into the Treasury of the Society.** The Treasurer shall demand and receive all funds due the Society from the Secretary, together with any bequests and donations. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary, and approved by the Board of Trustees. He shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands. He shall charge upon his books the assessment against each component society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him. The amount of the Treasurer's salary shall be fixed by the House of Delegates and shall be paid annually.

Sec. 4. **Secretary:** The Secretary, acting with the committee on scientific work, shall prepare and issue the programs for, and attend all meetings of, the Society and of the House of Delegates; he shall keep minutes of their respective proceedings in separate record books and papers belonging to the Society, except such as properly belonging to the Treasurer. He shall collect all assessments against each component society, and shall keep account of, and promptly turn over to the Treasurer, all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall keep a card index register of all the legal practitioners of the state by counties, noting on each his status in relation to his county society, and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence, and influence of his office, to aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistance as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates. In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient, it is desirable that he should receive some compensation. The amount of his salary shall be fixed by the House of Delegates, and shall be paid quarterly. He shall give bond in the sum of \$5,000.00, such bond to be procured from some reliable security company by the Trustees and to be approved by the Board of Trustees. The expense of such bond shall be paid by the Society.

Sec. 5. **Trustees:** The Board of Trustees shall have charge of the property and financial affairs of

the Society, and shall meet quarterly, the expenses of such meetings to be paid by the Society as provided in Section 4, Chapter IX of the By-Laws; but this shall not be construed to include the expenses in attending the Annual Sessions.

## CHAPTER VII

### Duties of the Council

Section 1. The Council shall hold daily meetings during the Annual Session of the Society, and at such other times as necessity may require, subject to the call of the chairman or on petition of three Councilors. It shall meet on the last day of the Annual Session of the Society for re-organization and for the outlining of work for the ensuing year. At this meeting it shall elect a chairman and secretary, and it shall keep a permanent record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates at such time as may be provided.

Sec. 2. Each Councilor shall be organizer for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. The Councilor may, when advisable, appoint a deputy or deputies to assist him in his work to carry out the requirements of this section. He shall make an annual report of his doings, and of the condition of the profession of each county in his district, to each Annual Session of the House of Delegates. The necessary traveling, and other actual expenses, incurred by such Councilor or his deputy, or deputies, in the line of the duties herein imposed, having been approved by the Board of Trustees, shall be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expenses in attending the Annual Session of the Society.

Sec. 3. Collectively, the Council shall be the **Board of Censors** of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Society. All questions of an ethical nature brought before the House of Delegates of the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members, or of a county society, upon which an appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Society in regard to health, sanitation, and other important matters, to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council, as such.

## CHAPTER VIII

### Committees

Section 1. The standing committees shall be as follows:

- A committee on scientific work. (3)
- A committee on public policy and legislation. (5)
- A committee on publication. (3)
- A committee on necrology. (11)
- A committee on nominations. (11)
- A committee on arrangements. (5)
- A medico-legal committee. (3)
- A committee on field activities. (7)
- A committee to receive resignations and to fill vacancies. (11)

A committee on constitution and by-laws. (3)

A committee on finance. (3)

and such other committees as may be necessary.

Such committees shall be selected by the House of Delegates unless otherwise provided.

Sec. 2. The **Committee on Scientific Work** shall consist of three members: the President, Secretary, and Treasurer, of which committee the President shall be chairman, and shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instructions of the House of Delegates, or of the Society, or to the provisions of the Constitution and By-Laws. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers, discussions, and other business shall be presented, which shall be adhered to by the Society as nearly as practicable.

Sec. 3. The **Committee on Public Policy and Legislation** shall consist of three members and the President and Secretary. Under the direction of the House of Delegates, it shall represent the Society in securing and enforcing legislation in the interest of public health and scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence on local, state, and national affairs, and elections. Its work shall be done with the dignity becoming a great profession and with that wisdom which will make effective its power and influence. It shall have authority to be heard before the entire Society upon questions of great concern, at such time as may be arranged during the Annual Session.

Sec. 4. The **Committee on Publication** shall consist of three members, of which the Editor shall be one and chairman, and shall have referred to it all reports on scientific subjects and all scientific papers and discussions heard before the Society. It shall be empowered to curtail or abstract papers and discussions, and any paper referred to it which may not be suitable for publication in the Journal may be returned to the author. All papers read before the Society shall be the property of the Society.



Sec. 5. The **Committee on Necrology** shall consist of all the members of the Council, who shall prepare for each session suitable biographical notices of deceased members.

Sec. 6. The **Committee on Nominations** shall be appointed and perform its duties in accordance with the provisions of Chapter V, Section 2 of these By-Laws.

Sec. 7. The **Committee on Arrangements** shall consist of the committee on scientific work and two members elected by the component society in the territory in which the Annual Session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting places of the Society, of the House of Delegates, and of their respective committees, and shall have general charge of all the arrangements. Its chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 8. The **Medico-legal Committee** shall consist of three members, all of whom shall serve without pay. The term of service of each member shall be three years, provided that in the original organization of this committee the service shall be grouped by lot into three divisions with terms expiring in one, two and three years respectively from July 1, 1907. On and after July 1, 1907, it shall be the duty of the members of this committee, severally or collectively, to investigate all claims of malpractice against members, to adjust such claims in accordance with equity where possible, and, if in their judgment an adjustment is impossible, or the claim is unjust, or the damage sought is excessive, to lend such help, aid, and council as they may deem proper; but they shall not pay, or obligate the Society to pay, a judgment against any member; nor shall they pay or obligate the Society to pay for legal counsel not authorized by the medico-legal committee. This shall not apply to the cost of transcribing evidence in appealed cases.

They shall effect such organization as they see fit, and adopt rules for their guidance, and for the guidance of members of the State Society in medico-legal matters. They shall be empowered to contract with such agents (attorney or other) as they may deem necessary. They shall have charge of the medical defense fund, which fund shall be secured as follows: Each member of the State Society shall be assessed \$2.00 a year for this fund alone. This assessment shall be paid along with the other state dues, and through the same channels, and shall be kept in the treasury of the Society. All bills for medico-legal defense, after approval by the committee and the Board of Trustees, shall be subject to warrants drawn in the prescribed manner.

Sec. 9. The **Committee on Field Activities** shall consist of seven members, all of whom, with the ex-

ception of two, shall be members in good standing in the Iowa State Medical Society.

In the manner of selection of members, the President-elect shall be an ex-officio member from his election until his inauguration as President; two shall be nominated and elected by the Council; one to be chosen by the Iowa State Board of Health; one, by the faculty of the State University of Iowa College of Medicine (both of whom shall be members in good standing of the Iowa State Medical Society); one, by the Executive Committee of The Iowa Tuberculosis Association; one, by the Executive Committee of the Iowa Conference of Social Work. (The last two named may be chosen by their respective organizations for their fitness to represent the specifically declared purposes of the organization.)

With the exception of the President-Elect, the members of this committee shall be elected for two years. (Those elected by the Council to cast lots for the short term so that one of the two will be elected at each annual meeting after 1922.)

The committee shall organize after the usual manner: a chairman and secretary shall be elected; the Secretary of the Iowa State Medical Society shall be made Advisory Secretary of the Field Activities Committee.

It shall be the function of this committee to collaborate with the Council as a body and with its members in the formulation and carrying out of the programs in their respective districts. It shall be the special agency through which the State Medical Society and other agencies concerned with related activities may establish sustained working relations, formulate joint programs, and promote interest and activity in lines calculated to increase the adequacy, efficiency, and equality of distribution of applied medical science throughout the State of Iowa.

The committee shall be empowered to employ such help as it deems necessary within the limit of the aggregate appropriation approved by the Board of Trustees and House of Delegates of the State Society; to enter into such working agreements with associated agencies as it may deem wise and proper; to recruit volunteer speakers' bureau and to pay the actual expenses of such speakers; to defray also the actual expenses of members of the committee that are incurred in performance of duties connected therewith, subject to the same rules and restrictions that apply to the Board of Trustees. All bills for the expenditure of the appropriation shall be subject to the approval of the Board of Trustees of the Iowa State Medical Society, after which warrants for payment shall be made according to the provisions of the By-Laws of the Iowa State Medical Society. The committee shall not incur obligations beyond the provisions of the appropriations placed at its disposal by the House of Delegates, but this shall not prohibit expenditure of funds that may be derived otherwise than through said appropriations.

The committee may make rules governing the conduct of its affairs provided such do not conflict with

the Constitution and By-Laws of the Iowa State Medical Society, and shall have power to appoint subcommittees and to invite the (non-voting) participation of persons as advisory members of the committee. In the event of absence or disability of the representative member from either the Iowa Tuberculosis Association or the State Conference of Social Work, the president of such organizations may act in his stead.

Sec. 10. **The Committee to Receive and Act upon Resignations and to Fill Vacancies** shall consist of all of the members of the Council, whose duty it shall be to receive and act upon all resignations presented between the Annual Sessions, and to fill by appointment, vacancies by reason of any cause whatsoever which may occur between the Annual Sessions, and which are not otherwise provided for.

Sec. 11. **The Committee on Constitution and By-Laws** shall consist of three members. It shall be the duty of the committee to propose such amendments to the Constitution and By-Laws as is deemed wise and judicious, and to bring before the House of Delegates such amendments as it, or other members of the Society, may care to present for consideration.

Sec. 12. **The Committee on Finance** shall consist of three members, whose duty it shall be to audit the books of the Society and to make a report of its findings to the House of Delegates.

## CHAPTER IX

### Assessments and Expenditures

Section 1. An assesment of five dollars per capita on the membership of the component societies is hereby made the annual dues of this Society. The Secretary of each county society shall forward its assessments together with its roster of all officers and members, list of delegates and list of non-affiliated physicians of the county, to the Secretary of this Society on or before January 1st prior to each Annual Session.

Sec. 2. Any county society which fails to pay its assessment, or make the reports required, on or before February 1st, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Society, or of the House of Delegates, until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Board of Trustees before being presented for final action to the House of Delegates.

Sec. 4. The necessary expenses of conducting the business of this Society during the interval between the Annual Sessions, on approval by the Trustees, shall be paid by the Treasurer on a written order of the Secretary countersigned by the President, and a

report of said expenses and expenditures shall be made, by the Secretary to the House of Delegates, at the annual meeting.

## CHAPTER X

### Rules of Conduct

The principles set forth in the code of ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

## CHAPTER XI

### Rules of Order

The deliberations of this Society shall be governed by parliamentary usage as contained in Robert's Rules of Order, unless otherwise determined by a vote of its respective bodies.

## CHAPTER XII

### County Societies

Section 1. All county societies now in affiliation with the State Society or those that may hereafter be organized in this state which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, upon application to the House of Delegates, receive a charter from, and become a component part of, this Society.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the state in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Society. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the Council for the district if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered physician in Iowa, who is practicing or will agree to practice non-sectarian medicine, shall be entitled to membership. Before a charter is issued to any county society full and ample notice and op-



portunity shall be given to every such physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right of appeal to the Council and to the House of Delegates.

Sec. 7. In hearing appeals, the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a Board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this state, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living near a county line may hold his membership in that county society most convenient for him to attend, provided no objection is made by the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral, and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the Annual Session of this Society, each county society shall elect a delegate to represent it in the House of Delegates of this Society in the proportion of one delegate for each fifty members, and one for each major fraction thereof, but each county society holding a charter from this Society, which has made its annual report, and paid the assessment as provided in this Constitution and By-Laws, shall be entitled to one delegate.

Sec. 12. The Secretary of each county society shall keep a roster of its members, and a list of non-affiliated registered physicians of the county, in which shall be shown the full name, address, college, and date of graduation, date of license to practice in this state, and such other information as may be deemed necessary. He shall furnish an official report containing such information upon blanks supplied him for the purpose, to the Secretary of this Society, on or before February 1st, of each year. In keeping such roster, the Secretary shall note any change in the personnel of the profession by death, or by removal, to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

## CHAPTER XIII

### Amendments

These By-Laws may be amended at any Annual Session by a majority vote of all the delegates present at that session, after the amendments have laid upon the table for one day.

## CHAPTER XIV

### The Journal

Section 1. The House of Delegates shall establish an official journal of the Iowa State Medical Society, which shall be called The Journal of the Iowa State Medical Society.

Sec. 2. The Journal shall be published monthly, and mailed not later than the 15th of the month, and it shall contain the papers and proceedings of the annual meeting and such other matter as is of interest to the members.

Sec. 3. The Journal shall contain not less than forty-eight pages per issue, and editorials shall be given a prominent part.

Sec. 4. An Editor shall be elected by the House of Delegates for a period of three years, his salary shall be fixed by the Trustees, and shall be paid quarterly, and shall include all office assistance and rent. Salaries and expenses shall be paid by the Treasurer on a written order of the Secretary countersigned by the President when authorized by the Board of Trustees.

Sec. 5. An allowance shall be made for necessary office supplies and postage.

Sec. 6. The printing and mailing of the Journal shall be let by the Trustees on yearly contract conforming to required specifications, and expenses accruing therefrom shall be paid quarterly by the Treasurer on a written order of the Secretary countersigned by the President when authorized by the Board of Trustees.

Sec. 7. The advertising policy shall be that of the Journal of the American Medical Association.

Sec. 8. The committee on publication shall have oversight of the publication of the Journal subject to the order of the House of Delegates. The Trustees shall audit the books of the Editor and authorize any contract which may be necessary.

Sec. 9. The committee on publication shall have editorial control of the Journal, and shall provide for and superintend the publication and distribution of all proceedings, transactions, and memoirs of the Society.

Sec. 10. All reports on scientific subjects and all scientific discussions and papers heard before the Society shall be referred to the Journal for publication. The Editor, with the consent of the majority of the committee on publication, may curtail or abstract papers not considered suitable for publication.

Sec. 11. All monies received by the Editor shall be turned over to the Treasurer at the end of each month.

## BOOK REVIEWS

DISEASES OF THE DIGESTIVE ORGANS  
WITH SPECIAL REFERENCE TO THEIR  
DIAGNOSIS AND TREATMENT

By Charles D. Aaron, Sc. D., M. D., F. A. C. P., Professor of Gastroenterology and Dietetics in the Detroit College of Medicine and Surgery; Consulting Gastroenterologist to Harper Hospital. Third Edition, Thoroughly Revised. Illustrated with 164 Engravings—48 Roentgen-organs and 13 Colored Plated. Lea and Febiger, Philadelphia, 1922. Price \$10.00.

The rapid development and great interest in diseases of the digestive organs has led to a vast literature on the subject, especially in roentgenology, as a means of diagnosis. Fortunately from time to time books appear from men of large experience and great skill in the use of this means of diagnosis and also in treatment; who also give at least a reasonable valuation on what is placed before us. No one has succeeded better than Professor Aaron in eliminating the elements of error in diagnosis which are sure to creep in, so difficult is the subject. The three editions of this important work appearing in rather rapid succession indicates the activity of this worker in his particular line. There are numerous illustrations of a most helpful character, showing the interest of the publishers in presenting a book having for its purpose aiding the medical practitioner in reaching a fair diagnosis. The treatment of the numerous forms of diseases and conditions of the digestive system is presented in a logical relation with the disease considered.

When we consider the 904 pages devoted to diseases of the digestive organs including physiology, chemistry, pathology, symptomatology, diagnosis and treatment we realize the immense amount of work involved and the immense importance given to disease of the digestive system.

## THE PLACE OF VERSION IN OBSTETRICS

By Irving W. Potter, M.D., F.A.C.S., Buffalo. Obstetrician-in-Chief, Deaconess Hospital and St. Mary's Maternity Hospital; Attending Obstetrician, City Hospital, Etc., with 42 Illustrations. C. V. Mosby Co., St. Louis, 1922. Price \$5.00.

The author from a large personal experience in obstetric practice has arrived at the conclusion that version will aid materially in eliminating the second stage of labor and in relieving the women of much of the pains and agonies of childbirth with no increase of fatal mortality. This is contrary to the general experience of obstetricians who have looked upon this procedure with apprehension so far as the fetus is concerned and have reserved it for special conditions. Considerable space is given to the early history of version and of version in the nineteenth

century. After presenting a very interesting history of version before the introduction of anesthesia, and the evolution during the nineteenth century, and after the use of anesthetics we came to version of the present day. The author states that at the opening of the twentieth century "version was looked upon as an emergency operation to be employed only when the forceps had failed, or was for some reason obviously impractical." Then we have the views of obstetrical writers generally in line with the introductory statement. Commencing with chapter four, the author presents his own technique of version. This is described in much detail and profusely illustrated. Chapter five considers criticisms and answers. Five years ago he presented his method of podalic version before the American Association of Obstetricians and Gynecologists, which met with much adverse criticism. This criticism has led the author to review the subject in relation to his contention. Chapter six is devoted to a discussion of the indications and advantages of version. Chapter seven, Conclusions. The author presents two series of versions, one of 500 cases with no maternal deaths and 57 stillbirths, also a second series of 200 cases with no maternal deaths and with 16 stillbirths. Giving a total of 700 versions with no maternal deaths and 73 stillbirths from numerous causes not attributable to the procedure. Certainly the book is a valuable contribution to obstetrical practice.

OPIATE ADDICTION—ITS HANDLING AND  
TREATMENT

By Edward Huntington Williams, M.D., Formerly Associate Professor of Pathology, State University of Iowa. Special Lecturer on Criminology and Mental Hygiene, State University of California, Etc. The Macmillan Company, New York, 1922. Price \$1.75.

Dr. Williams has taken an interest in questions relating to alcohol and narcotics from the standpoint of pathology. He has undertaken to show that much of the legislation touching the control of opium and alcohol has failed because the laws have not taken into account physical and mental conditions which are often the underlying causes of addiction. It is difficult to make laws that will reach all the exceptions that may come up in the interpretations of the general purpose of the legislation.

Dr. Williams in the volume on Opiate Addiction has presented a reasonable argument in support of the antinarcotic laws and an interpretation of their application. It would be quite impossible to obey the absolute letter of the law without great hardship to many, and if the legislation is measured from the standpoint that narcotic addiction is a criminal act the legislation would fail. Drug addiction often is the result of conditions for which the individual is not responsible, from mental defects which legislation cannot control. There is a large class of addicts who cultivate the habit in a criminal sense. These



conditions are discussed in the introductory chapter. It appears that with a diligent enforcement of the law during a period of five years there have been a considerable increase in the amount of opium consumed. There has been no doubt a decrease in the use of opium for legitimate purposes but a marked increase in its unlawful use. The author states: "From a medical viewpoint the law has the fundamental defect of not giving sufficient consideration to the underlying cause of opium addiction" and proceeds to enlarge on this point.

Opiate Addiction Chapter One. Opening statement: "The term opiate addiction implies a definite pathological condition." This chapter sets forth the opinion generally held by the medical profession and should be carefully considered by those who have the enforcement of the law in hand.

In Chapter two the treatment of opium addiction is considered from the standpoint of gradual reduction. Chapter four considers the treatment from the standpoint of Rapid Withdrawal. In Chapter three is presented a number of useful hypnotics which may be used in treating the insomnia which accompanies the withdrawal of opium and in Chapter six Comments and Observations. The reader of this book will gain many useful points on this very important subject. It is beginning to be understood that opium and alcohol addiction cannot be controlled by legislation but can and should be regulated by law. The question of opiate addiction should be studied from a medical point of view and not determined by sentiment.

#### THE MANAGEMENT OF THE SICK INFANT

By Langley Porter, B.S., M.D., M.R.C.S. (Eng.), J.R.C.P. (Lond.). Professor of Clinical Pediatrics, University of California Medical School, Visiting Physician, San Francisco Children's Hospital, and William E. Carter, M.D., Assistant in Pediatrics and Chief of Out Patient Department University Medical School, Etc.; 654 Pages with 54 Illustrations. C. V. Mosby Co., St. Louis, 1922. Price \$7.50.

The deep interest shown in many directions in the management and treatment of children's diseases has stimulated the production of numerous books on different features of child welfare and new studies in children's diseases. The particular feature of this book is the consideration given to the peculiarities of disease as it occurs in infants. Every practitioner recognizes the difficulties of managing sick infants and so much has this been recognized, that in the larger centers of population men of peculiar adaptability are devoting themselves to this special branch of medicine. Among country practitioners the doctor must from the necessities of his position act as a specialist in many directions. In this book he will find helpful aid in working out diagnosis and treatment, and none the less, the practitioner in larger

centers where special practice is possible. In considering this book as a whole, it will be found an exhaustive treatise on the management of sick infants and to fill a welcome place in a doctor's library.

#### HAYFEVER AND ASTHMA, CARE, PREVENTION AND TREATMENT

By William Scheppegrell, A.M., M.D., President, American Hayfever Association; Ex-President American Academy of Ophthalmology and Otolaryngology; Chief of Hayfever Clinic, Charity Hospital, New Orleans. Illustrated with 107 Engravings and 1 Colored Plate. Lea and Febiger, Philadelphia, Price \$2.75.

Hayfever has so much to do with human happiness that a study of the causes of hayfever and its associated relationship to asthma promises to add so much to the comfort and happiness of the race that we should welcome the investigations of patient workers in this field.

The amount of ignorance and superstition in relation to what causes hayfever is very great. Dr. Scheppegrell for a series of years has endeavored to show the public the nature of the agent which has distressed many people and caused them to flee from their homes to secure rest and comfort. It was not until 1819 that hayfever was considered a disease and not until 1873 was it known to be caused by a pollen, and innocent plants were accused. It was important that the guilty ones should be discovered, and this has been the work of Dr. Scheppegrell, who has embodied his studies and investigations in a volume of 274 pages. A short history of hayfever is followed by discussion of the pollen responsible, chemical composition and conviction. Then comes a consideration of the type of hayfever plants and their distribution. With chapter seven we have a short description of the anatomy and physiology of the nose. In chapter eight the symptoms, diagnosis, susceptibility and atypical forms are presented. It is also shown that the disease is not of microbic origin. In chapter nine, the exciting and predisposing causes are pointed out, the onset of attack, hereditary influences and the relation of hayfever and asthma. Following is an interesting discussion of hayfever seasons for different states, occupations, exposure, percentages. Influence of sex, age, race, etc. Chapter twelve considers hayfever pollens and their reactions, as spring and fall hayfever. Potential areas, atmospheric conditions, testing the wind-pollination of hayfever plants and other important facts in relation to this disease which the profession and the public should know as a means of prevention.

The remaining portion of the book is devoted to the treatment of hayfever. Being due to a pollen as already stated the important thing is to avoid or destroy the responsible plant. There appears to be

no specific remedy unless it be by immunization by preparing a vaccine. The result of this treatment has not been fully determined but seems to be of considerable promise. The preparation of vaccines is described and the methods of administration pointed out. The wide prevalence of the disease suggests the careful study of Dr. Scheppegrell by the profession and the victims of the disease.

# MANUAL OF CLINICAL LABORATORY METHODS

By Clyde Lottridge Cummer, Ph.B., M.D.  
Cloth. Pp. 484, with 136 Engravings and 8  
Plates. New York and Philadelphia. Lea  
& Febiger, 1922.

The publication of this volume is amply justified by the fact that new laboratory methods are constantly being invented and that clinical experience, from time to time, places a truer and truer evaluation upon older methods. Cummer's work leaves little to be desired. The binding is solid and strong, the paper is good and the type is large and readable. The text is well written and accurate and the illustrations are well chosen. A number of them are original. The book deals comprehensively with the newer methods of blood chemistry and serology. In a word the book is one of the best of its kind.

D. J. Glomset.

# SYMPTOMS OF VISCERAL DISEASE

A Study of the Vegetative Nervous System in its Relationship to Clinical Medicine. By Francis Marion Pottinger, A.M., M.D., L. L.D., F.A.C.P., Medical Director, Pottinger Sanatorium. For Diseases of the Lungs and Throat. Second Edition with 86 Text Illustrations and 10 Color Plates. C. V. Mosby Co., St. Louis, 1922. Price \$5.50.

The second edition of this important work is before us. In the preface we note the satisfaction of the author in the early exhaustion of the first edition as an expression of the interest of the profession in this manner of presenting important facts and theories in the science of medicine.

The book begins with an introductory chapter on the Evolution of Medicine. The purpose of the author is to bring out the influence of the nervous system in diseases of the viscera and for this purpose begins the second chapter by classifying symptoms of disease from the standpoint of the autonomic nervous system. Dr. Pottinger in chapter five, brings out in his discussion what he regards as the most important, the "viscerogenic reflex" and from this point on to chapter nine the theory is amplified in a very interesting and convincing way. The discussion is somewhat difficult but well worth struggling with.

Chapter nine, part two, is an introduction to the viscerogenic reflex relating to the vegetative nerves beginning with the digestive tract, and continuing with the liver, gall-bladder; the diaphragm; the bronchi and lungs and the pleura. Then comes the heart and blood-vessels; the larynx; the eye; the lachrymal glands; the urogenital tract; the endocrine glands and concluding in part three, with the vegetative nervous system.

# THE MEDICAL CLINICS OF NORTH AMERICA

Volume Five, Number Five, March, 1922.  
By Boston Internists. Octavo of 335 Pages,  
with 62 Illustrations. Price Per Clinic Year  
Paper \$12.00, Cloth \$16.00 Net. W. B.  
Saunders Company.

The first paper of this number is by Professor Henry A. Christian of Peter Bent Brigham Hospital under the title of Digitalis Effects in Chronic Cardiac Cases. Following this important paper is one by Dr. William H. Robey entitled Angina Pectoris with and without Cardiac Signs. Dr. Elliot P. Joslin considers Deaths Following Sudden Changes in Diet, and Dr. John Lovett Morse, Chronic Indigestion in Early Childhood. Dr. George R. Minot presents an interesting analysis of Blood Loss Due to Pathologic Hemorrhage. The Study of Myxedema with Observations of the Basal Metabolism is the subject of a paper by Dr. Cyrus C. Sturgis. Acute Rheumatic Myocarditis by Dr. Joseph H. Pratt and Cardiovascular Syphilis by Dr. William D. Reid are two papers of much interest from a physician's point of view. Another paper of this interesting collection is by Drs. Louis E. Viko and Paul D. White relating to Observations on Important Disorders of the Heart Beat.

We have before us the May or Chicago number of the Medical Clinics of North America including the index of this important volume, of 1817 pages. In this number may be found twenty-one papers by well known Chicago internists. Abdominal Reflex Disorders by Dr. Arthur R. Elliot. This is a short paper, but of much interest, touching the influence of disturbing emotional states on the autonomic nervous system and the secondary effects thereof. Frequency of abdominal disturbance, particularly of the digestive type having a neurotic basis, followed by a Clinic on Pernicious Anemia by Dr. Charles Spencer Williamson, and a Clinic by Dr. C. G. Brulee on Infantile Eczema. Dr. Isaac A. Abt presents a Case of Carbon Monoxide Poisoning in a Child. The very interesting subject of the Diagnosis of the Gastric Neurosis is presented by Dr. Joseph C. Friedman. It is a subject never to be overlooked. In a series of cases by Dr. Charles L. Mix is a discussion of Adhesions Following Cholecystectomy, chiefly Periduodenal.



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## ORATION ON MEDICINE\*

B. L. EIKER, M.D., Leon

*Mr. President, Ladies and Gentlemen:*

The oration on medicine, delivered before a scientific body like this one, is supposed to come from someone whose training, education and opportunities are such as to place him in direct touch with the first whisperings of advanced medical science. He is supposed to review the past and emphasize the improved and established methods for the diagnosis and treatment of disease. He is supposed also to look into the unexplored fields for the year to come, and point out the way that seems best to blaze trails toward desired medical achievements. On this occasion we desire to depart from that time-honored custom. Not because we cherish any disrespect for the custom itself, but because there is now arising in the dim distance other problems worthy of our most earnest consideration. Problems that at this time are so minor in appearance that their importance seems to be overlooked. Problems that are fundamental to the welfare, not alone of the medical profession, but of the entire nation. Our purpose at this time is to present to you a few of these problems as they appear to the general country practitioner.

The practice of medicine is a privilege granted to certain individuals who have complied with certain requirements, it is not a right mysteriously achieved by the individual and held as his own and exclusive accomplishment. It has for its beginning and for its end the welfare of the individual patient; and from this standpoint and this alone must all laws, rules and regulations pertaining to disease and its prevention be considered. From the babe in its helplessness to the potentate with unlimited power, from the army of school children to the powerful army of our nation's defense, the medical profession is indispensable.

It follows, therefore, that in order to properly care for future generations, surrounded as they will be with all the intricacies of modern civiliza-

tion, the medical man to take your place and mine must be a man of more than ordinary ability, endowed by nature with those attributes calculated to inspire confidence and fit him for leadership. To these natural attributes must be added that long laborious process of education and training which develops the mind of the individual so that he may accurately determine his relations to his surroundings, and to develop the skilled hand to execute the mind's command. Individuals capable of properly caring for the health of a community or nation are not found in every home, they cannot be educated in the twinkling of an eye, neither do they receive their attainments from some hidden and unseen power. "Men do not gather grapes from thorns nor figs from thistles" today any more than they did centuries ago.

To take up a burden of whatever nature implies that there must be a place and there must be a time where that burden will be laid down. There is a place where responsibility begins and a place where responsibility ends. We have no moral right to pretend to treat the sick unless we have that degree of training and skill which enables us to properly diagnose and treat disease as measured by the generation and day in which we live. On the other hand the individual, community, or country has no moral right to demand of the medical man the best results unless that same individual, community or country contribute their share towards surrounding themselves with such environment as to enable the medical man to reach his highest degree of attainment and accomplishment. In other words, there is a place where the responsibility of the medical man ceases and the responsibility of the community begins.

Aside from their scholastic attainments, little attention has been paid in times past to the kind of young men and young women permitted to study medicine. As a result of this slipshod method we have our neurotic physicians, following a step further we have our physicians who are dope fiends and going a step farther our doctors with reprehensible moral idiosyncracies; all

\*Presented before the Seventy-First Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 10, 11, 12, 1922.

of which lower the standard of the medical profession and injure its usefulness and influence in a community. It is universally admitted by those who think that there is no higher calling than that of a medical man. Does it then not follow that our medical schools should allow none to enter its doors except those who are physically sound, mentally capable, and morally fit? If we were more particular about the class of men and women permitted to study medicine our profession would be held in higher regard by the laity.

To be eligible to enter a reputable and recognized medical school of the present day one must have had a high school education, and at least two years in liberal arts. In addition to this he must take a four years course in medicine and supplement this with one year's work in a hospital. If you have a boy or girl who desires to become a doctor of medicine they will be required to follow out this long, expensive and laborious course. At the present time medical men are dying off faster than they are being educated and graduated. Already some sections of the United States are beginning to feel this lack of medical men and very naturally they inquire into the cause.

The average human mind loves notoriety and longs to be the first to discover the conflagration and call out the fire department. Many investigations of inquiries are carried on by well meaning individuals but individuals who are sorely handicapped in their arduous task by active tongues and equally inactive minds. The result of investigations being carried on by this class of individuals can be easily guessed. In the present investigation relative to the dearth of medical men the cause was immediately located and a remedy forthwith suggested. The cause given was too rigid entrance requirements by our medical schools, and forthwith a lamentation went up for a return to the good old fashioned family doctor with his primitive methods, and his poor results, which time and lapse of memory have magnified into Christ-like achievements. Far from me to pluck one laurel from the crown of my predecessors, and I have no respect for the man who will do so. They filled their niche in life and did it well in their day and generation. But this is a different age compared to the one in which they lived. Their methods of treating disease and caring for patients, if they were put in use today, would be as antiquated when compared with our methods as their means of transportation at that time would be if compared with our present day method of transit. The old family doctor is rapidly passing, passing from the earth never more to return and even those who mourn his going

would not themselves employ him if he were here today.

To the man who insists on lowering the medical standards of today, bear this message; "It requires years of persistent, patient toil to rear the sturdy oak tree, a tree that can withstand the storms and caprices of the weather; but a pumpkin can be matured in three months." It takes time to develop the mind to that point of stability where it can act with accuracy when the storm-tossed love of zealous friends are clutching frantically at every ray of hope that offers the slightest promise of evading death. To lower the entrance requirements and bring down the standard of American medical schools would be as much of an insult to coming generations as it would have been to have lowered the stars and stripes of America to the imperial power that sought its annihilation.

After having selected your material from those young men and women of the highest physical, mental and moral type, after having educated them in the best schools of America, you have your product ready for the market. Where will you market this finished product, where will you have this young man or young woman locate? There does not live in this great commonwealth of ours a man or woman capable of educating a boy or girl for the medical profession of the present day that would think of locating that boy or girl at the country crossroads. And if a man or woman has graduated from one of the present day accredited medical schools of America and is then content to locate and stay at the country crossroads town, there must be something radically wrong with the mental attitude of that individual. Having spent five years of his life with medical men and surrounded as he has been by the highest type of medical environment, he will find himself an utter misfit in any small town that has no hospital and nothing to commend it except a rich surrounding country. A farmer cannot raise his best corn on a race track, neither can a race horse make his fastest time in a corn field. The people of this country if they expect the best medical aid must awaken to their responsibility and to the necessity of having well equipped hospitals for the care of those unfortunate members of their family that may need medical care.

In looking over the events of history one cannot help but be impressed with the fact that little progress has ever been made by the human race until they had first sacrificed many human lives trying out some antiquated and obsolete method. So it will be with the hospitalization of the United



States. When the people and medical profession finally awaken to the fact that the old family doctor is a thing of the past, that educated men will not be content to spend their lives and the lives of their families in the small country town where gossip and talk offers the only means of education; when they finally awaken, then and not till then can we expect hospitalization which is an absolute necessity if we expect to increase the efficiency of the man power of this country. However, this will probably not be brought about until such time as the people of the United States in the name of personal liberty have sacrificed hundreds of lives of all classes of people and soaked their antiquated ideas with human blood in a vain endeavor to bring back old time conditions.

The average human being loves a funeral, he hates progress. He fails to understand why he cannot procrastinate and argue with a microbe of disease the same as he can with his neighbor. "Water seeks its level" and if you surround a medical man with the environments heretofore described he will of necessity retrograde, he cannot do otherwise. In union there is strength, in segregation weakness; medical men must be so situated that they can easily and readily obtain the upbuilding, uplifting and helpful influence of each other if they are to render their greatest efficiency in this reconstructive program of our civilization.

In conclusion I desire to summarize a few facts as they appear to the general practitioner engaged in country practice. The practice of medicine begins and ends with securing the best that can be secured for the patient.

The utmost care should be exercised in selecting men and women for the study of medicine.

The highest standard of medical education compatible with advanced medical science must be maintained at all hazards.

The people at large must realize that part of the responsibility for health conditions rests with them.

Neither medical men nor laymen should waste valuable time in lamentations over past history. Turn your faces to the front. Rivet your eyes upon the great possibilities of the medical future. Remember that nothing can permanently endure unless it rests upon an established, proven and permanent foundation. Give no heed to the side issues of "opathies" and "isms." Give them responsibility, leave them alone and they will die in their own excrement. But march straight toward that goal of accomplishment, namely; the

prevention of disease, the alleviation of human suffering and the building up of the efficiency of our country's man power.

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## INJURIES TO THE SPINE NOT INVOLVING THE CORD\*

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OLIVER J. FAY, M.D., F.A.C.S., Des Moines

The discovery and development of the roentgen ray cast a new light on many obscure medical problems, and perhaps in no field was the illumination of greater value than in the field of spinal injuries. Fractures and dislocations involving the cord had long been recognized by their clinical symptoms, but where grave injury had been done without cord involvement, and in all lesser injuries to the spine, definite diagnosis had been almost impossible. A new impetus has also been given to the study of these injuries by the enactment of compensation laws. Determination of the extent of disability and its probable duration is at best a difficult problem, and the more accurate study, which has been accordingly demanded, has done much to clarify our knowledge of the lesser injuries to the back. And with this better understanding has come a more adequate therapy.

Crushing of the body of a vertebra is always to be considered a serious injury because of the danger of injury to the cord, yet such an injury may occur and may go on to healing without causing serious disability at any time. I have recently had a striking illustration of the truth of this statement. A young man while working at the top of a twenty-five foot pole, received a bad electric shock, and fell to the pavement, striking on the buttocks. He had two electric burns of the left hand and these he permitted to be dressed, but he refused to await the development of the x-rays which had been made, and instead was driven overland in a Ford roadster to his home, a distance of twenty-five miles. When I first saw the patient some six weeks later, he complained of inability to lift any considerable weight, and of tiring easily. He was able to stoop about half the normal distance, and to bend without acute pain, but there was a prominence over the second lumbar vertebra, and the x-ray revealed a crushing injury of the body of this vertebra, and a fracture of the transverse process on either side. The patient was restive under any restraint, but was supposed to remain quiet at his home. Five

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and a half months after the injury he was allowed to take up light work at his own urgent request, and a month and a half later, he insisted upon returning to his accustomed work. The range of motion is entirely normal, and the tissues move freely over the callus.

It is evident that in a case of this sort, where all symptoms of cord irritation or injury are lacking, and where strong musculature renders the elicitation of crepitus difficult, a diagnosis of fracture of the vertebra would be practically impossible without the aid of the x-ray. Yet with such off-hand treatment as that accorded his injury by this patient, secondary injury to the cord is always possible, and without a definite diagnosis, the physician himself, finds it difficult to steer a safe course between the Scylla of inadequate treatment, and the Charybdis of overtreatment.

Fractures of spinous processes were unrecognized in most cases before the employment of the x-ray as a routine practice in all accidents in which bony lesions are at all probable, and went to swell the number of cases grouped under the convenient head of traumatic lumbago. In part the diagnosis depended upon the severity of the trauma—if the accident suggested direct violence of a formidable sort, the diagnosis might be fracture of a vertebra, while fracture of a spinous process due to minor force passed as traumatic lumbago. The subjective symptoms of pain and localized tenderness vary in degree with the patient's exaggerated or sluggish reaction to pain, and the objective symptoms of crepitus and palpation of a movable fragment are often lacking, particularly when the fracture is incomplete, or the patient has powerful musculature. In early cases, the x-ray may reveal a line of fracture or the displaced fragment, while in later cases the callus is seen, always granted that the plate is clear, and that its interpreter is familiar with the peculiarities of skiagraphs of this region.

Fractures of the transverse process when not associated with injury to the body of the vertebra are practically always due to indirect violence, and the determining accident may be trivial or severe. The symptoms are essentially those of fracture of a spinous process, though crepitus can rarely be elicited. Fractures of transverse processes almost invariably involve lumbar vertebrae, while the spinous processes most frequently fractured are those of the thoracic vertebrae, occasionally those of the cervical or lumbar vertebrae. Pain on the whole is a more marked feature of fractures of transverse than of spinous pro-

cesses. The pain may radiate to the anterior abdominal wall, the extremities, the groin, the coccyx, and in the absence of an x-ray, it has led not only to the familiar diagnosis of lumbago, but also to that of appendicitis.

Fracture of the arch is a connecting link between the lesser and the graver injuries of the spine. Where the fracture is bi-lateral, as it often is, displacement of the fragments sometimes results in more or less grave injury to the cord, and the injury then assumes something of the rank of a fracture of the vertebral body. But unilateral fracture of the arch is probably more frequent than we surmise, since here even the x-ray may fail to give us definite information.

Under sprains of the spine we group many injury cases in which we are forced to reason from an indefinite pathology to an indefinite etiology or mechanism. In sprains, the radiographic study of the spinal column is negative, but following a fall upon the head or back, the direct application of force by a blow, or even following the strain of forced lifting, we encounter the symptoms made familiar by the so-called sprains of other joints. (I am arbitrarily ruling out those cases in which there are more than transient symptoms of cord injury). The pathology can only be surmised—overstretching and torsion of ligaments, lacerations or contusions of ligaments and capsules, for the mechanism of a sprain is essentially that of an incomplete or transient dislocation. Sprains, like dislocations, are most common in the cervical region where the range of motion is widest; they occasionally occur in the lumbar, and are rarely met with in the dorsal region.

The diagnosis of contusions of the vertebrae, like the diagnosis of sprain, has an uncertain basis in that the pathology can rarely be demonstrated, and diagnosis is reached by a process of elimination. When, following a fall upon the head, back or buttocks, there is pain on motion, as evidenced by muscular rigidity, and pain on pressure over the given area; when fracture of the vertebrae has been ruled out, and the diagnosis sprain is hardly adequate, we speak of contusions of the vertebrae. While sprains are usually in the cervical region, contusions of lumbar vertebrae are most common, and bruises of the skin and muscles are often associated with contusion of the underlying bone. Sometimes the x-ray gives evidence of a slight injury, some irregularity of the margin of the body of the vertebra.

Traumatic spondylolisthesis is an unusual and rarely recognized injury of the spine. As a result



of a fall or blow upon the head or shoulders in most cases, there is a forward dislocation of the fifth lumbar vertebra. Kleinberg says that the clinical evidence of this condition is found in prominence of the sacrum; a palpable and often visible hollow immediately above the sacrum; pain in the back and lower extremities; weakness and stiffness of the back; lordosis; forward bending of the trunk; and tenderness of the lumbo-sacral region. Immediate symptoms of the injury may be less severe than those which develop subsequently. The injured has sometimes continued at work for a time. The pain and weakness in the back and legs becomes more marked, and there is increasing deformity in the lumbar region. X-ray evidence is not lacking, but skiagraphs of the region are difficult of interpretation so that a definite diagnosis is probably only possible to the trained roentgenologist.

The number of cases of so-called traumatic lumbago decreases in direct ratio to the care with which the lesser injuries of the spine are classified according to the actual pathology. The term as here used is applied only to those cases in which following some sudden or unusual movement, sudden severe pain in the back develops. The x-ray is negative, and the very nature of the accident makes actual injury to the vertebræ extremely improbable, so we assume that injury to muscle or nerve fibres is responsible for the pain, and for want of a more specific terminology, we speak of traumatic lumbago. In industrial medicine, the term is a peculiarly unfortunate one, for in a majority of cases the incriminated accident has been too slight to warrant the application of the term "accident" i. e., there has been no unusual or excessive muscular effort required. The onset of the pain in any case of so-called lumbago is characteristically sudden so that the term "traumatic" should only be applied to those cases of lumbago in which the onset of pain was immediately preceded by some unusual exertion, such as the lifting of an excessive weight, or by some external violence. Kuth, in reporting a series of 208 cases of pain in the lower back, says that a history of trauma was given in over 50 per cent of the cases, while on investigation it was found to be a factor in only 18 per cent. Pain of osteoarthritic origin is often first noted following some minor injury, or a supposed sprain of the back.

In a general way, fractures of the spinous or transverse processes or of the arch should be accorded the treatment given any fracture—immobilization. Complete immobilization is probably only attained when a body cast is supplemented

by extension, and in these lesser fractures such radical treatment would probably be productive of more harm than good unless special indications were present. The application of a cast alone, or even simple adhesive strapping, together with rest in bed, is usually sufficient. In the case of sprains and contusions and even so-called traumatic lumbago, careful adhesive strapping and rest in bed are again advised. Where fractures are inadequately treated, the disability due to pain on flexion and rotation of the spine may be indefinitely prolonged, and even in cases of injury without demonstrable anatomical lesions, partial permanent disability may result where the primary scoliosis, the result of involuntary muscular rigidity, or of the patient's voluntary attempt to assume a comfortable position, may become permanent.

These lesser fractures should heal in approximately the same time required for union of any small bone. The patient should then be encouraged to take graduated exercise; hydrotherapy is a useful though not an essential part of the after-treatment. An ununited fragment or a large callus may occasionally give rise to trouble, and so necessitate operation, but even here the prognosis is excellent and disability should not be prolonged beyond a few months.

Prognosis is notoriously difficult in these cases of minor injury. Delayed recovery is sometimes due to failure to recognize and adequately treat a minor fracture. The danger of over-treatment is not generally recognized, but clinical observation has convinced me that it is a hardly less potent cause of trouble. Recovery in a majority of these cases should be a matter of weeks, at most of a few months, yet it is a rule rather than the exception to have these men return for examination after many months, still complaining of disability and of pain. Sometimes failure to recognize and treat an existing fracture is responsible for these complaints, but in another large group of cases, the patient is disabled as a result of over-, rather than of under-treatment. One is struck by the number of patients in this second group who have been under the care of osteopath or chiropractor. To the average layman there is a sinister suggestion in any injury to the spine however trivial, and any mention of fracture in this region is apt to be considered the equivalent of a "broken back." The supposed existence of a subluxated vertebra may ordinarily give the patient addicted to osteopathy or chiropractic only a pleasurable thrill and a morbid feeling of pride, and the osteopath one more source of revenue.

But if an accident has preceded the discovery of this subluxation, the tale is a very different one. The injured is impressed with the idea that he has something at least akin to a broken back, and it is quite evident to him that his disability must accordingly be great and his compensation or damages correspondingly large. Sometimes the medical practitioner gives rise to the same pernicious train of thought—unintentionally in a majority of cases, I believe—when he speaks of a fractured spinous or lateral process as a fracture of the spine. Here, too, the patient is apt to gain the impression of a "broken back," and the way is thus paved for the development of a neurosis.

I believe that prevention in these cases is far better than any treatment, and that prevention is possible in a large percentage of cases if careful diagnosis makes possible efficient treatment and accurate prognosis. From an industrial and sociological standpoint, cases of delayed convalescence in an employe are peculiarly unfortunate—the insurance company and employer are apt to feel that the laborer is malingering, while the injured man himself is convinced that he has been given inadequate attention and unfair treatment, and when he at last returns to work, it is in an antagonistic and resentful frame of mind. The physician's first duty is to his patient, and any complication which delays or prevents complete recovery, whether the resulting disability is of a functional or purely neurotic character, should be guarded against. If the injured man is from the first given to understand that his injury is a minor one, and that his disability will not extend beyond a certain fixed period of time, he is often ready to return to work even before the expiration of that period. Where recovery does not take place within the anticipated time, a painstaking examination should be made to exclude the possibility of an unrecognized injury, some pre-existing pathological condition, some unexpected complication, and of wilful malingering. In this connection it should be remembered that unilateral muscular rigidity cannot be counterfeited, that tenderness to pressure, or anesthesia which is diffuse and fails to recognize anatomical limitations is neurasthenic or counterfeit; that in compensation neurosis and in malingering, the patient who finds it impossible to perform certain motions without expressions of severe pain can be induced to employ the same muscle groups without evidencing any distress so long as he does not recognize the significance of the test. It must be borne in mind that a general knowledge of the symptoms associated with a given disability has

become current coin in any hazardous industry. Only a few days ago a workman informed me that his fellows had assured him that he was a fool for going back to work so soon when by judicious handling, his back injury could be made to yield him an income for a long period of time.

The patient with a true disability should have skilled treatment; short shift should be made of the malingeringer; for the patient with a compensation neurosis there is only one effective treatment—definite and final determination of the period of disability, the gold cure with fixed dosage. Examination and re-examination, fixing and re-fixing the period of temporary disability is as sane a procedure as repeated partial excision of a malignant growth—such treatment only stimulates the morbid process. The patient with a compensation neurosis will recover from his neurosis when the irritating element of gain is removed from the etiological complex, and only then. Set a definite limit to the period of disability and compensation, and you have also fixed the date of recovery, but in determining this period of disability, take due account of the lesions present.

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### VERTEBRAL FRACTURES WITH CORD INVOLVEMENT\*

JOHN WALTER MARTIN, M.D., Des Moines

This subject is of great interest not only from a surgical standpoint, but from that of trying to do something worthwhile for these poor unfortunates with "Broken Backs." I know of nothing more pathetic than to see a case of vertebral fracture with complete severance of the cord lying day after day helpless and dying by inches. As you see him you hope each day to find some return of function, or some little thing happen that will give you encouragement and a spark of hope to your patient, but the outlook is almost always gloomy, and after many months in bed with incontinence of urine and feces accompanied by large atrophic ulcers, he dies. As some one has said these cases live too long.

Vertebral fractures is too large a subject to discuss in detail, so I should like to emphasize the

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following points. Fresh fractures of the vertebræ, especially of the lumbar and dorsal region, with partial severance and complete severance of the cord, and when operation should be performed.

In considering vertebral fractures with cord involvement, it may be well to remember the anatomic considerations of the spine and spinal cord.

As you know, the structure of the spine is peculiar because of its numerous and complicated joints and because of the strong ligaments which embrace the bones on every side.

In the spinal column the forked spine of the axis may be felt beneath the occiput under deep pressure. The spine of the third, fourth, and fifth cervical vertebræ recede from the surface and cannot be felt distinctly, but by palpation through the mouth of the bodies of the vertebræ may be felt down to about the upper border of the fifth cervical vertebræ.

The spines of the sixth and seventh cervical vertebræ project distinctly and can be palpat d. At the bottom of the furrow in middle line of the back are felt the spines of the dorsal and lumbar vertebræ.

The spinal cord extends from the skull to the second lumbar vertebræ, below which point the spinal canal is occupied by the bundles of nerves destined for distribution to the lower abdomen, pelvis, and lower extremities. Between the dura mater, lining the spinal canal, and the pia mater, covering the cord, is the arachnoid space, filled with cerebrospinal fluid, communicating with the ventricles of the brain, and serving to preserve the cord from jar and friction.

Injuries to the vertebræ are caused by direct blow fracturing the arches, by fall on head or buttocks crushing the bodies of the vertebræ, by forced flexions or extensions of the spine causing a dislocation with or without fractures of the bodies and articular processes.

The vertebræ commonly fractured are the fourth, fifth and sixth cervical; twelfth dorsal and first lumbar. More than one-half of the fractures of the cervical vertebræ are fractures of the spinous processes. More than two-thirds of the cases of the dorsal lumbar vertebræ are fractures of the bodies of these vertebræ. A dislocation without fracture may occur in cervical region, but is rare in other regions of the spine.

In the examination of a spinal injury we should determine the nature of the accident.

1. What does palpation of the spine reveal as to the nature of the lesion?
2. Where is the level of the lesion?
3. Is the cord partially or completely severed?
4. What does the x-ray reveal; has there been a fracture with dislocation; fracture through the body, through the lamina or spinous processes?

The findings in general of vertebral fractures depend on the location, whether in the cervical, dorsal, or lumbar region, or whether there has been an injury to the cord. We have signs of shock. At the point of injury will be found tenderness and pain, abnormal mobility and deformity.

The deformity will usually be a backward bending or kyphosis of the spinal column at the seat of injury. The chief symptoms depend upon injury to the spinal cord. Generally speaking the motor and sensory paralysis, either partial or complete, will be found at the level of the lesion and extend downward. If the lesion of the cord is incomplete reflexes at first will be absent, but will return later. If the lesion is complete reflexes will remain absent, with retention and incontinence of urine and feces, bed sores and great sloughing areas of the skin on dependent parts of the body will occur early.

In injuries to the cervical region opposite the cervical enlargement of the spinal cord, there may be partial, or complete paralysis of the arms which may not show in the beginning. Respiration is diaphragmatic, pain in the arm is constant. If the injury is above the sixth cervical vertebræ, there will be anesthesia of the entire arm, excepting the shoulder.

If the injury is in the mid cervical region, say—a lesion at the third cervical vertebræ, it will involve the phrenic nerve. The diaphragm will be paralyzed and death will occur in a few days. In injuries of the first two cervical vertebræ, life may be spared if displacement is slight, but death is usually instant. According to Gowers "one in fifty is said to recover."

The simple distribution of the spinal nerves below the first dorsal makes the interpretation of the injuries of this region much easier than that of similar injuries to the cervical or lumbar regions. The arms escape paralysis, the motor and sensory paralysis extend to the height of the bony lesion, the patellar reflexes are at first lost in severe types of fracture. If patient recovers there will be a spastic paralysis.

As the spinal cord ends opposite the lower border of the first lumbar, any fracture which causes

pressure at that point or below, will involve the Cauda Equina, partially or completely. Paralysis of the leg may be partial or complete. Anesthesia of the lower limbs is partial rather than complete up to fractured vertebræ, retention and incontinence of urine and feces exist, constant pain; hyperæsthesia may be present both above and below the lesion. Patellar and plantar reflexes usually lost.

After having found out which part of the spinal column is involved, the next important question to decide is whether the cord is incompletely or completely severed. This condition may be due to compression of the cord by displaced bones, extra dural or sub-dural blood clot, by intra-medullary hemorrhage, cord concussion, edema, or secondary softening of the cord, due to pressure from bone, blood clot, or edema.

According to Frazier in a complete transverse traumatic spinal cord lesion, there is a flaccidity of all muscle groups where innervation comes from segments below the level of the injury. There is loss of all reflexes whose arcs lie in segments below the level of the injury. There is complete loss of control of the bladder and rectum and complete loss of all forms of sensation to the level of the injury. The symptom picture is stationary with tendency toward trophic changes for the worse. In partial or incomplete lesion of the cord, there is a spastic condition, with or without contractures of muscle groups, whose nerve supply comes from segments below the level of the injury.

Paralysis may not be total. There is an increase of reflexes whose arcs lie in segments below the level of the injury. Presence of the Babinski phenomenon. At times a partial knowledge that evacuation of the bladder and rectum is taking place. The loss of sensation is not total and the symptom picture is not necessarily stationary, and gradual improvement of all symptoms may be noted.

So then in vertebral fractures the point of greatest interest and importance is, what damage has been done to the cord at a particular level? Has there been a complete destruction? Has there been an incomplete destruction, or do we know with reasonable assurance that the cord is only slightly damaged or not harmed at all? This is of the greatest importance because it is the key to the whole situation and decides when these cases are operable, and the most opportune time to operate.

Operation on patients with incomplete cord symptoms should be done as soon as possible, that is, as soon as the patient has reacted from the

shock and the site of the lesion localized and his exact physical condition known. If within twenty-four to forty-eight hours there has been some return of the motor or sensory, or more particularly of the reflex power in the affected extremities, then the operative procedure is indicated. Operation should be especially quickly done if the x-ray has demonstrated that the arch of the vertebra has been fractured and is projecting into the spinal canal and causing a compression of the cord. The constant pressure of the bone will cause degeneration in the cord which never can be recovered from. The sooner the pressure is removed the sooner the regeneration of the cord begins, and the more certain are we to have functional recovery.

I have found in looking over the literature of the past eight years on this subject that practically all surgeons are agreed upon the need for early operation in the cases of incomplete cord lesion; but when we come to discuss the question of operation on cases of complete cord lesion, we find that the sentiment is almost entirely against the procedure, for they say it can do no good and will only hasten death. If we could be sure that the cord was damaged beyond repair then operation would not be justifiable; but here a most difficult problem is presented to the surgeon. Can we make a positive diagnosis that there has been a complete transverse lesion of the cord? The answer must be "No." The difficulty is to determine whether there has been a transverse crush or whether the symptoms are due to compression or concussion of the cord, or to an acute **edema of cord tissues**. Complete absence of function below the lesion in a spinal fracture does not always prove that the cord is completely severed or even that it is damaged beyond repair.

In many cases of fracture of the spine it is impossible to state whether the cord is crushed, or pressed upon by bone, blood or exudate except by an open operation. If the cord is crushed no matter what treatment is adopted there will of necessity be a high rate of mortality.

Since we are not able to make a positive diagnosis of complete cord severance we have no other alternative than to approach all cases of this type as being incomplete lesions, hence justifying early operative interference. An exploratory operation, properly done, adds nothing to the discomfort of the condition and may result in restoring partial usefulness to the limbs. We are more apt to get good results if we operate these cases early, for pressure from a large extra dural hemorrhage, to say nothing of that from a sub dural hemorrhage may in a few days time so destroy the spinal cord



that the operation will count for nothing, whereas if that pressure be immediately released there is a strong possibility of complete function restoration.

If we could be sure that we had to deal with hemorrhage in the center of the cord, we would not be justified in operative measures, but while the late manifestations of intra-medullary hemorrhage are easily recognized the immediate symptoms following injury are usually identical with those of an ordinary transverse lesion, therefore it seems to me that it would be better to err even in these cases on the operative side. If for some reason we happen to wait six or eight weeks with the result that paralysis of the bladder and bowels continue with cystitis and large bed sores present, we may be sure that nature cannot relieve the case and operation is not only indicated, but demanded.

In summing up the subject after the study of the literature and reviewing my own experience with over twenty cases, on some of which laminectomy has been performed, but the majority of which have been treated conservatively, I have come to the following conclusions:

That all cases of vertebral fracture with cord involvement are surgical. After the first three or four days whether there is return of function or not, if the patient's general condition will admit it, I believe open operation is justifiable. It is generally agreed that early operation is indicated in an incomplete lesion of the cord, and we cannot be absolutely sure at any time that the lesion is a complete one, but we do know that if we have a complete lesion the result is a slow but sure death. The cases we are apt to harm by surgical interference are usually hopeless anyway, and if they are not absolutely hopeless there is a chance for partial if not complete recovery of function by operation.

Therefore to my mind, in cases of complete lesion of the cord, operation is really a justifiable gamble, with death certain without surgical interference.

I should like to give a very brief history of three cases, that have been under my observation recently, to help bring out some of the points in my paper. The first case was that of a farmer whom I saw in consultation.

#### Case Report

F. S., age thirty-eight, married. No previous history of illness or injury.

History of Accident—While applying binding pole to load of hay, pole broke and patient was pitched head first on frozen ground, a distance of nine or ten feet. The entire body was paralyzed imme-

diately from the head down. He was able to talk and move the head from side to side, open mouth and protrude tongue. No paralysis of any eye muscles, was not unconscious at any time, was unable at times to move a single muscle or group of muscles. In the course of a few hours was able to move the thumb of each hand a time or two and slight movement of each foot. Anesthesia delayed at first, in forty-eight hours was complete, but gradually returned to normal in five or six weeks. Respiration was apparently diaphragmatic. Eight hours after accident, anesthesia more pronounced, retention of urine, catheterized which was necessary for about three weeks, then voided voluntarily, bowel evacuated by enemas. No incontinence of urine at any time. Twenty-four hours after injury. Complete anesthesia.

As the patient lived in the country and did not want to be moved to a hospital. No x-ray was taken, but a distinct protusion could be felt by inserting the finger along the posterior wall of the pharynx at about the fourth cervical. Not much improvement for about three weeks, after which the general improvement was rapid. Six months later he was able to return to work.

This case demonstrates the importance of noting early symptoms which is of great importance in determining the prognosis and treatment. The case was one of petechial hemorrhage into the cord with dislocation of the fourth cervical.

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A. Anderson, age forty, married. Worked for construction company at Camp Dodge.

Physical and x-ray examination showed that he had a compression fracture between the second and third lumbar. There was partial paralysis of the right side below the level of the lesion, namely third lumbar. There was loss of bladder and rectal control. There was area of anesthesia over the sacral region. Patient complained of numbness in the legs. The reflexes were lost at first, but returned on the fourth day and became greatly exaggerated, but no improvement of the control of the bladder and rectum. Operation was advised which was done seven days after accident.

At operation we found fracture of the spinous processes, second, third and fourth lumbar, and fracture with dislocation of the body of the second lumbar. The cord was damaged, fragments of bone with blood clots were removed which were pressing on the cord filaments. Patient made a good recovery. Operative wound healed by first intention. Pressure symptoms showed a gradual improvement.

Diagnosis—Partial paralysis, due to pressure from fragments of bone and blood clots. Patient returned to light work two years after accident.

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Ray C., age twenty-two. Admitted to Iowa Lutheran Hospital December, 1921, with history of being caught in fall of slate in mine.

Examination—General shock was pronounced, but

patient said, "I feel dead from my waist line down." There was complete paralysis from about the twelfth dorsal down. Loss of all reflexes. Complete loss of control of bladder and rectum. Complete loss of all forms of sensation from the level of the lesion down. Symptom picture did not improve. X-ray showed fracture of the twelfth dorsal and dislocation of the first lumbar. Three days after the accident, the condition of the patient remained the same. A careful examination by a neurologist. Diagnosis of possible complete severance of the cord.

Patient and relatives told of the serious condition, operation recommended, but of course no encouragement was given. Patient refused operation and was taken home. After four weeks, patient decided that he might as well take a chance, as he became fully convinced that he could not get well as he was. Laminectomy was done. The spinous processes of the eleventh, twelfth and first lumbar removed and the cord was laid bare, and much to my surprise, the dura was intact and no visible evidence of complete severance of the cord. The operative wound healed by first intention and patient was removed home twelve days after operation. Up to date there has been very little improvement, but I cannot help feel that if the patient had submitted to an early operation, there would have been more of a chance for some partial return of function.

#### Discussion on Papers of Drs. Fay and Martin

**Dr. William Jepson**, Sioux City—Dr. Fay has so well presented the topic of injury to the spine without injury to the cord that there is little left for me or possibly for any one else to say except in the way of emphasizing a few points. One of the points that I would like to emphasize as brought out by Dr. Fay is that in few fields has the x-ray been of more advantage to us than in determining some of the lesions of the spinal column which we hitherto did not recognize and probably would not have recognized without its aid. At least I will say that for myself. Certainly the x-ray pictures that were put on the screen have shown many things in the negative, that is, these fractures did not show as clearly as one could hope for. Please remember that that is true also when examining them most carefully. And even with the best x-ray work, and I am sure this is amongst it, you may find difficulty in being positive that a fracture does not exist. In other words, I am quite confident that until the x-ray came to our aid many of these fractures passed from our observation with the statement that the condition was simply a sprain or a traumatic lumbago or whatever one wished to call it. I recently noticed an article by Dr. Hibbs of New York in which he mentioned some nineteen or twenty cases, of which number only four or five had previously been recognized, and they had run along for years and appeared before him with the so-called traumatic lumbago, which simply means that the individual is trying to do with his spine what the individual who has a tubercular condition tries to do with his—to fix it with his

muscles and keep it rigid in order to relieve himself of pain, and in doing so he not only suffers pain, but suffers distress. The reason the x-ray is of such great value is that we cannot by the ordinary symptoms of fracture, as crepitus, pain, etc., determine the existence of fracture of either the body of the vertebra or even of the transverse processes. I agree most heartily with Dr. Fay that in every one of these cases of fairly marked injury to the back and where from the history of violence we have a right to suspect fracture, we eliminate fracture insofar as possible and even then, if not sure, treat the case as if it was a fracture, placing the vertebral column at rest for a period of five to seven weeks. I want to say furthermore that we should not make the patient too conversant with what we think is the matter with him. This was beautifully illustrated to me in my last service, when I happened to be located at a point where there was a flying field about us. We had in our wards a number of patients who had come down and survived, with the result that they had fractures of various bones. Of a number of such cases I remember two instances of men who in coming down sustained fractures of the vertebral column, and to this day they do not know it and are not bothering anybody about their sore backs.

**Dr. H. C. Eschbach**, Albia—I have nothing but commendations for the paper of Dr. Martin, enumerating as it does the injuries of the vertebral column with involvement of the cord and presenting in a very brief manner a fair and adequate picture of such involvements. As has been said, most of these cases live too long. To one who has practiced in a mining country where these cases are comparatively frequent, the picture is one that he approaches with dread. We have many of them in our country, patients going about in a hopelessly crippled condition from fracture of the vertebral column. As Dr. Fay has pointed out, those cases nowadays are treated by being put to rest and taking care of the fracture, just as in fracture of any other bone and securing fairly adequate results in functional activities for that patient in the future. But with involvement of the cord the picture is entirely different. As our essayist has pointed out, we have no way of determining the complete severance of the cord. The x-ray does not tell us, the loss of function below the site of injury does not tell us, whether that cord is completely severed. The same indications are present in compression of the cord, in concussion of the cord, in pressure from blood clot, in acute inflammation, and various other conditions that may be the result of injury, without complete severance of the cord. So I think all of these cases should be approached with an open mind as to complete severance of the cord. We should seek to prevent any other complications coming in, and as soon as shock is over and study of the case has been completed we should be prepared to do an open operation by careful exploratory technic, because interference will not increase the dangers or difficulties and if there is not complete severance of the cord, by removing the pressure that exists you



give a chance for revitalization of the cord at the time and some usefulness to that patient in the future.

**Dr. Tom B. Throckmorton, Des Moines**—I feel that the two papers which have just been presented are valuable contributions to medicine. To me they have been of particular interest, but time does not permit me to eulogize the efforts of my two distinguished confreres. In the few moments at my disposal, I would like to direct my remarks along the line of hysteria and accident compensation. A few years ago in the current literature, there occurred very frequently the terminology "railway spine" which was coined by a man named Ericksen who reported a large number of cases complaining of spinal injury following railway accidents. From the time of the coining of "railway spine," we have heard the terms traumatic spine, traumatic neurasthenia, traumatic hysteroneurasthenia, traumatic neurosis, and now we have the term, and I believe best of all, "traumatic hysteria," applied to this great group of cases in which there are objectively no organic lesions involving the central nervous system, the entire quota of cases being confined to those individuals presenting symptoms which are truly functional in character. We are all agreed that hysteria is a true disease entity, but it must be borne in mind that it occurs only in individuals who are pathologically vulnerable to suggestion. That is to say, of a number of individuals exposed to the same traumatic possibilities, the vast majority of those thus exposed will give no symptomatology of an hysterical nature. There may be one or two who will develop so-called traumatic hysteria. The solution of the problem, as I see it, deals largely with the education of the medical profession to an appreciation of the point touched upon by Dr. Jepson in his closing remarks, namely, that it is oftentimes the physician who first suggests to the patient the possibility that an injury has been sustained. It is absolutely up to the examiner who first sees these cases to determine largely their subsequent course, as to whether those individuals who may be pathologically vulnerable to suggestion will have opportunity to react to the unconscious suggestion given by the examiner and thereby develop a case of traumatic hysteria. Those of you who are familiar with the literature concerning hysteria know of the valuable work that was done by Charcot years ago at the Salpêtrière. Charcot showed that in the vast majority of cases presenting the symptoms of hysteria, he could readily demonstrate a true hysterical hemianesthesia. Later Babinski, his pupil, demonstrated that unless the case had been previously examined by some one, no true hysterical hemianesthesia could be demonstrated unless the examiner, through his power of suggestion either consciously or unconsciously, suggested to the patient the fact that he really was searching for an area of anesthesia. The result was that in over 100 consecutive cases of hysteria examined by Babinski, and not previously examined by other physicians, not a single one showed the presence of hemianesthesia. I think such a finding is extremely important. Furthermore,

Babinski demonstrated that in the vast majority of the cases, previously examined, the hemianesthetic area occurred on the left side, due, as he believed, to the fact that the examiner testing for areas of anesthesia, was right-handed in most instances and therefore began the sensory examination on the left side of the patient. The second point of importance I wish to make is that after educating the profession, we should proceed to educate the laity that the subject of compensation is a true economic problem. As I see it, whenever a railway, street car, or mining corporation is sued by some individual who claims organic disease as result of an accident (but who really has nothing but a functional condition to deal with), and such an individual receives a verdict for a large amount of money, while naturally the plaintiff is the one who profits, it is society as a whole that suffers. You, and I, and others in the productive period of life, eventually are the ones who must make up this loss by reason of the fact that we are all obliged to avail ourselves of public utility service; we are all obliged to buy coal and the necessities of life and the result is that many corporations are compelled to set aside a certain amount of money to offset any loss that might occur through spurious litigation, and hence must sell their products to the public at a higher price, while all society, like Jones, "pays the freight."

**Dr. Fay**—I have just two things to say: (1) When the neurologist has sufficiently developed his end of medical science so that a definite diagnosis of complete transverse lesions of the cord is possible; or (2), when the roentgenologist has developed his science to the point where it is possible for him to determine that a vertebra is dislocated completely past its fellow, and that it is, therefore, impossible that the cord has escaped division, then it will be useless to operate on those cases which have a complete severance of the cord.

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## TUMORS OF THE BREAST FROM THE STANDPOINT OF THE GENERAL PRACTITIONER AND THE GEN- ERAL SURGEON\*

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ARTHUR DEAN BEVAN, M.D., Chicago

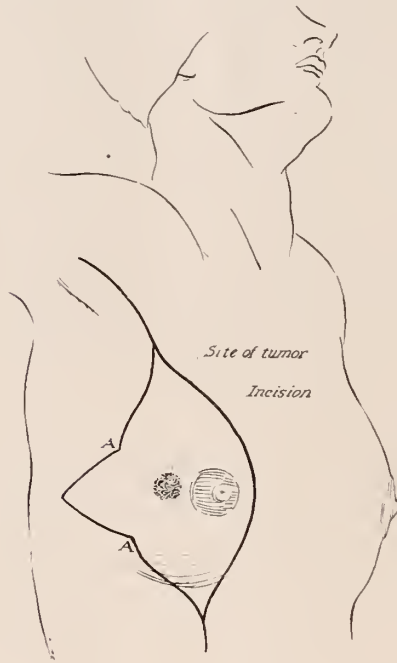
Mr. President and Members of the Tri-State Medical Society: It is my purpose this evening to discuss the subject of tumors of the breast as a practical, every day problem in clinical work, a problem which is quite as important, if not more important, to the general practitioner than it is to the general surgeon. I should like to do this in the simplest possible way and from the standpoint of my own personal experience with the subject. It will be necessary also in discussing tumors of the breast in this particular way to include also a

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discussion of the chronic inflammatory processes which simulate tumors and of the other conditions, either real or imaginary, which lead the patient and sometimes the medical man to come to the conclusion that a tumor exists, when, as a matter of fact, it does not exist. These latter cases I shall discuss under the general title of "pseudo-tumors."

I want to say a word or two in regard to the history of this subject. In the days of Billroth and in the days of Gross a good deal of study and



attention was given to this general subject and some definite conclusions arrived at, conclusions which we have been forced to alter by the knowledge which has been accumulated in the last thirty years. Billroth presents in his monographic article on this subject in the Billroth-Peterson System of Surgery a very complete discussion of the subject up to the time that that article was written. Let me summarize some of the views which are presented. First, in regard to the frequency of the various neoplasms found in the breast, Billroth's work seemed to show that carcinoma occurred in about 80 per cent of the cases, benign tumors in about 10 per cent, and sarcoma in approximately 10 per cent. During Billroth's time there was a great deal more confusion in regard to the proper surgical procedures to adopt than there is today. It is quite clear that many of the supposed malignant tumors operated on at that time were not malignant but benign, and it is also quite clear that the operation done fell far short of being radical

in the sense that we employ the term today. To be sure, the breast was removed and very often the axillary glands, but the complete radical operation had not as yet been introduced. The percentage of recoveries in the cancer cases, because of the fact that many of these cases were operated upon late and the operation was not very radical, was small. On the other hand many benign cases were operated on with the diagnosis of malignancy.

Some surgeons of considerable experience at that time took the point of view that very few cases of cancer of the breast were permanently cured by radical operation. Since Billroth's time there have been these very considerable changes. In the first place, because probably of several factors, we are today seeing a much larger percentage of benign tumors of the breast than were seen by Billroth and his colleagues. In my own work benign tumors today form the majority, probably somewhere from 50 to 60 per cent, of the tumor cases that come to my service. In the second place, on account of the more general education of the public of the danger of cancer and of tumors of the breast generally, on the whole women are coming to us for operation much earlier than they did thirty years ago. In the next place, following the work of Haidenheim, Stiles, Halsted, Willy Meyer and others, we are doing a much more radical operation and one that carries with it much more safety to the patient and as a result our percentage of cures has increased very considerably.

Treating this problem as I intend to do in the simplest and in a practical clinical way, let us ask ourselves what shall we do with a woman who comes to us with a tumor of the breast. In the first place, we must ask the question, has she a tumor of the breast or not? That is by no means an idle question. I feel quite confident that I see at least fifty women a year who consult me for a supposed tumor of the breast where none exists, and these form a very interesting group of cases and one which must be studied very carefully by every honest, scientific surgeon.

These cases occur especially in two classes of women, the women who have been badly frightened by the occurrence of cancer in some member of their family or of some friend and who, because they have a twinge of pain in the breast, believe or at least are afraid that they themselves have a tumor and probably a cancer of the breast and come directly to a consulting surgeon for examination. The surgeon examines the case with great care and finds no neoplasm at all and most of these women are entirely and completely



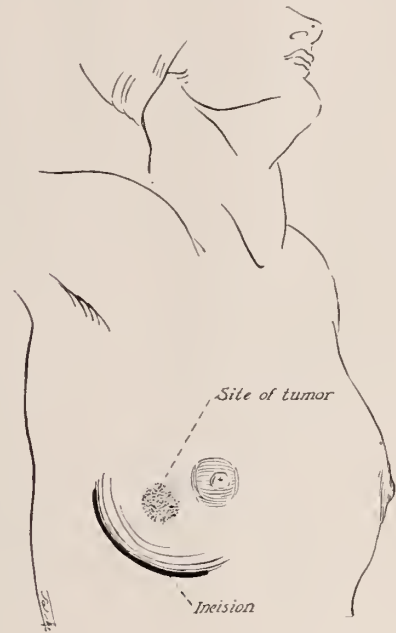
relieved by the assurance that they have no tumor and go on their way rejoicing.

The second group are cases which have been seen by some general practitioner who has listened to their story, then examined the breast and convinced himself, let us say perfectly honestly, that he could more or less vaguely outline a tumor in the breast in the position in which the woman complains that she has some pain or tenderness. These cases then come to the consulting surgeon of experience who examines them carefully and finds no tumor of any kind or anything that resembles a tumor, or he may find as not infrequently happens, that the woman has a lobulated breast in which the lobules are separated from each other pretty definitely by connective tissue septa, so that one can pick up one of these lobules between the thumb and finger and without much stretch of the imagination imagine that we are palpating an encapsulated neoplasm.

I must add, too, a third group to these cases; that is a group in which a woman imagines that she has a tumor. She goes to the family physician and he imagines or believes that she has a tumor and she is then sent to a consulting surgeon, who should know better but either does not, or is dishonest and is willing to operate on the case for the sake of a fee. It seems almost incredible that such a state of things could exist, but yet it is true beyond peradventure, because I have seen many cases which have been referred to consulting surgeons where the surgeons have recommended and urged immediate operation for tumors of the breast where on examination on my service we found that none existed at all. I have seen that so frequently that without hesitation I make the statement that many breasts are operated on every year in this country where no tumor exists, some of these through mistake and others because the case furnishes an opportunity of making a fee, and one must remember also, a brilliant opportunity of making a permanent cure for cancer by amputation of the breast where as a matter of fact no cancer or even tumor of the breast has ever existed.

Now let us come to the next practical question, that is, the class of cases in which tumor undoubtedly does exist. A woman comes to your service with a tumor of the breast. I want to say to begin with that tumors of the breast are definite, tangible things, like a bean or an olive or an English walnut or an egg or an apple. It is not necessary to strain one's imagination or eyesight at the end of the palpating finger to determine the presence of a neoplasm if one actually exists. In making the examination one can do very well by

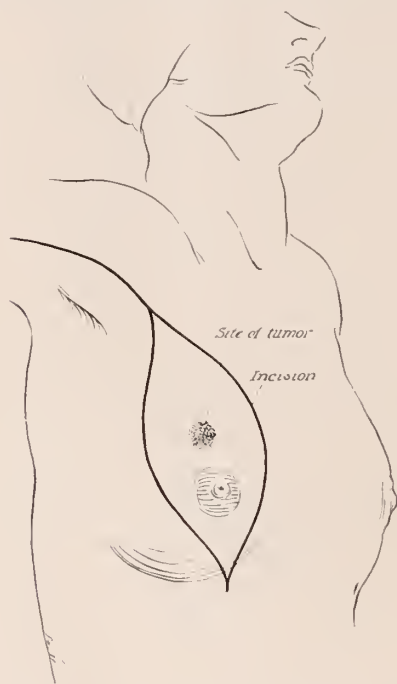
adopting two different methods, first, placing the flat of the hand on the breast and pressing the mammary gland with the flat of the hand toward the thorax and with gentle rotating movement see if a tumor can be palpated in this way. Usually it can be. Then in the next place, after determining the location of the tumor that particular segment of the breast is picked up between the thumb and finger and the tumor definitely located and outlined. After locating the presence of the tumor, the next step is to answer the ques-



tion—is this tumor benign or malignant, or in the third place, instead of being a tumor at all may it be a chronic inflammatory process? In other words, in determining the character of a swelling of the breast—and I am now excluding for the time being acute inflammatory processes such as acute abscesses—one must answer three questions: is it a benign tumor, is it a malignant tumor, or is it a chronic inflammatory process in the breast?

The differentiation between a benign and a malignant tumor depends very largely upon the fact as to whether the tumor is movable in the mammary gland tissue or whether it is frozen into the mammary gland tissue. Benign tumors are almost invariably movable in the mammary gland tissue. That does not mean that one can move the tumor on the chest wall, because that can be done in malignant tumors unless it is absolutely frozen to the thorax. A benign tumor should be movable in the sense that when you hold the mammary gland fixed with the thumb and finger

a benign tumor can be moved in the mammary gland tissue itself. This is not true of a malignant tumor, nor is it true of chronic inflammatory processes in the breast. The simple evidence obtained as to whether a tumor is movable or frozen-in overshadows in value all other evidence that can be obtained in mammary gland neoplasms. Of course, there are other simple practical points to consider,—the presence of a tumor in both breasts in a young woman of twenty-one speaks with almost absolute certainty because of



the age and because both breasts are involved against carcinoma and in favor of the neoplasms being benign. It goes without saying that in the breast as in carcinoma elsewhere these malignant neoplasms occur with much greater frequency during the cancerous years of the individual's life, from forty to sixty years of age.

The usual classical descriptions given in our text-books of the signs of a malignant tumor in the breast are for the most part of little value in making an early diagnosis. Pain, the marked retraction of the nipple, the marked fixation of the tumor to the skin, the fixation of the tumor to the underlying muscles of the chest wall, the presence of lymphatic nodes in the axilla, and the evidence of carcinomatous cachexia, most of these pieces of evidence are of little or no interest to the clinical surgeon who is anxious to operate on a patient at a time when there is a good prospect of permanent cure. They are of rather more interest to the pathologist. There is one piece of

evidence, however, that occurs fairly early and in comparatively small malignant tumors which should be emphasized and is of real practical value, that is, the dimpling of the skin over the malignant neoplasm and one must, of course, not disregard, even in early cases, this same condition which produces a retraction of the nipple.

A malignant tumor of the breast where there is a good prospect of a permanent cure by operation is the tumor that is seen so early that few if any of the evidences of the old classical picture are present and when, in fact, the diagnosis rests alone upon the discovery of a neoplasm that is frozen in the mammary gland; without any other pieces of evidence this alone furnishes the evidence upon which the operator acts, and this malignant tumor of the breast must be also, if we are to class it as a favorable case, one in which the cancer is limited to the primary focus and in which there is not as yet any palpable involvement of the nearest lymphatic node,—the nodes found in the axilla.

Now before we discuss the question of the proper surgical handling of these cases and the diagnosis, let us take up the subject of benign tumors of the breast. In order to reduce this subject to the simplest possible terms, instead of making any elaborate classification of these various benign tumors, let me say that in a practical way we may group these benign tumors all under the title of adenoma; this includes simple cysts, a tumor which may be best described as cystic disease of the breast, which has been so well described by Schimmelbusch that it has been frequently referred to as Schimmelbusch's tumor of the breast, a condition which is thought by some authors to be a cystic disease due to chronic mastitis, but which Schimmelbusch believes, however, to be neoplastic. I quite agree with that theory that this cystic disease of the breast is neoplastic and not inflammatory. There are to be sure a great variety of benign tumors which may occasionally occur, such as lipoma, angioma, enchondroma, etc., but almost all of the benign tumors of the breast that we meet with in our clinical work can be referred to one of three groups, either fibro-adenoma, simple cyst of the breast or multiple cysts occurring as they do in Schimmelbusch's disease. Fibro-adenoma might again be sub-divided into a number of varieties such as intracanalicular fibromas intracanalicular adeno papiloma, etc., but I think for practical clinical purposes this is unnecessary. These fibro-adenomas are encapsulated and very distinctly movable in the breast tissue when one fixes the mammary gland firmly against the chest



wall. They vary in size, they very frequently involve both breasts, and they very frequently begin in early womanhood, in the twenties. Simple cysts are also, although not encapsulated, freely movable in the mammary gland tissue because they are not frozen in as a malignant neoplasm and are not surrounded by inflammatory tissue as in chronic inflammatory processes. A cyst can be also movable and involve both breasts and may occur comparatively early in life. Where there is a single large cyst careful dissection not infrequently discloses the fact that there may be small cysts in close contact with the large cyst. As an example, one will not infrequently remove a cyst the size of the yolk of an egg and in close contact with it there may be two or three or a half dozen small cysts no larger than grains of sago, but for all practical purposes the cyst is a single cyst.

The Schimmelbusch tumor is a disease of early womanhood. It may involve both breasts and it may be limited to a small area of the mammary gland or it may develop gradually and involve most of the mammary gland tissue. As you all know, in cross section the disease is made up of multiple cysts varying in size from grains of sago to cysts the size of a bean or even a small cherry, forming a picture in pathologic anatomy somewhat like cystic disease of the kidney one sees in congenital cystic kidney. In this neoplasm there is frequently no definite capsule. On the other hand, one of these tumors the size of an egg is usually fairly freely movable in the mammary gland tissue because again it is not frozen into the mammary gland tissue by extensions of the process, such as occur in carcinoma or by inflammatory processes, such as occurs in chronic inflammatory lesions of the breast.

I want to say a word now in regard to sarcoma of the breast. Sarcoma of the breast is certainly a rare lesion and I have seen comparatively few cases: Of course, in looking over widely the literature one may find a considerable number of sarcomas of the breast, cases representing all varieties of sarcoma, but in my own clinical work I doubt very much whether sarcoma has occurred in more than 2 or 3 per cent. of our cases. In the early development of sarcoma of the breast it gives us a somewhat confusing picture, midway between a benign and malignant neoplasm, in the sense that some of these sarcomas have a distinct capsule and are freely movable in the mammary gland tissue, but as they grow larger and the process involves the tissues outside of the capsule we have the same

frozen in characteristics that we find in carcinoma.

Let us now consider for a moment the chronic inflammatory processes that may simulate tumor, because, as I said in the beginning of this discussion, it becomes necessary to make a differential diagnosis in our ordinary clinical work between these chronic inflammatory processes and neoplasms. The chronic inflammatory processes which I have met with have been three in number: tuberculosis, syphilis (gumma), and actinomycosis. We can dismiss actinomycosis with a few words as the lesion is comparatively rare and is one that is not very often apt to be confused with a neoplasm, though this is possible at times. Actinomycosis of the breast is, of course, secondary to lung and pleura actinomycotic processes extending through the lung and pleura to the mammary gland, producing hard swellings with not infrequently fistulous tracts. The swelling is quite characteristic. This wood-like induration one finds in almost all actinomycotic processes. It is associated, as I have said, very frequently with fistulous tracts and, of course, examination of the pus and granulation tissue scraped out with the curet will usually disclose the rods of the actinomyces or complete characteristic colonies.

Syphilis of the mammary gland is by no means uncommon and one should be on his guard against the possibility of this simulating malignant disease. I have several times seen syphilis of the breast operated upon with a diagnosis of cancer and have seen one breast sacrificed for gumma with a diagnosis of cancer and then after the same process developed in the other breast, by more careful examination the correct diagnosis determined and the process cured by proper anti-specific treatment.

Tuberculosis of the breast may, of course, simulate malignant disease or benign neoplasm. The diagnosis, however, on gross section with direct inspection of the pathologic process is not very difficult, and inasmuch as these cases of tuberculosis seldom if ever give anything like the typical picture of carcinoma but present characteristics placing them in the list of cases demanding visual inspection of the pathologic process before a radical operation is made, the correct diagnosis and correct surgical therapy present in correct practice no insurmountable difficulties.

As these patients with swellings in the breasts come to us I believe one could say that in more than 90 per cent of the cases we can make an accurate clinical diagnosis from examination of the swelling and determine in this large percentage

of cases, more than 90 per cent, whether we have to deal with a malignant growth, a benign growth or a chronic inflammatory process. In this 90 per cent of the cases I feel that the clinical diagnosis is so definite that we can proceed with our operative interference without direct inspection of the neoplastic tissue and in the cases in which we believe we have a definite carcinoma to deal with, proceed at once to radical operation; in the cases in which we believe we have a benign neoplasm to deal with, proceed to a local removal of the neoplasm first, by making an incision in the fold under the breast, turning the breast upside down, removing the neoplasm, obliterating the dead space in the mammary gland at the site from which the neoplasm has been removed, dropping the mammary gland back into position and closing the external wound. This course is much to be preferred, because the scar will not be visible, as an incision directly over the neoplasm which will leave a more or less disfiguring scar. Of course, when we handle a benign neoplasm in this way it gives us a definite opportunity of examining it grossly and determining the pathology in cross section.

This leaves a group of about 10 per cent. of cases in which we begin our operative procedure with a feeling that we do not know whether the tumor is benign or malignant and that we must first determine this fact before we decide what procedure, radical or local, should be adopted in the particular case. Now how are we to determine in this doubtful group of cases whether a neoplasm is benign or malignant. In answer to that I will say that almost invariably by exposing the tumor and by direct section of the tumor and making the diagnosis from the gross naked eye pathology. To the surgeon who is trained in gross pathology nothing is more satisfactory, and nothing is more definite in the vast majority of these cases than a diagnosis from the gross pathology on cross section. Nineteen times out of twenty or more, the section of a carcinoma is so definite that a trained surgeon has no question as to the condition which he has to deal with when he has cut through the tissue with his knife and exposed it for inspection. The same is true of benign tumors. This inspection of the gross pathology is a much more certain way of making a diagnosis in these doubtful tumors than a rapidly made frozen section. I have applied this method in my cases for a long time. I am very glad to find that Bloodgood in a recent article on breast tumors in Binney's Surgery presents quite clearly the same conclusions that the gross path-

ology can be relied upon much more safely than a rapidly made frozen section.

This leaves a very, very small percentage of tumor cases in which the diagnosis, after inspection of the gross section, is not absolute or in which one may be mistaken in his diagnosis. I doubt very much if this group would furnish more than one per cent. of all tumor cases and these are the cases in which a very careful examination of the specimen after its removal and a very careful study of serial sections are necessary to make a definite diagnosis, and inasmuch as this is always made, or should be always made, in these tumor cases, it leaves the situation in regard to this small percentage of very doubtful cases in this way—that the surgeon makes a diagnosis of a benign tumor or a doubtful tumor, removes simply the tumor and then submits it to a very extended and careful study with serial sections. That is complete within two or three days and on the basis of that careful study if it proves to be malignant, radical operation is then at once made.

In connection with this particular group of cases I want to say that I have no sympathy at all with the proposition that was preached a few years ago, that removal of the tumor from the breast for microscopic examination was bad surgery. If a tumor of the breast is removed and very carefully examined and we devote two or three days to this examination and study, I cannot see that any possible harm is done to the patient if at the end of the third or fourth day a radical operation is made. Cancer cells do not hop around like the Irishman's flea. They extend from the primary focus along the lymphatics by a slow process of growth just as a pumpkin vine grows along the ground and not by a kind of a growth that would develop in the two or three days, during which the specimen is being examined.

Now so much for the practical differential diagnosis between these three groups of cases, the malignant tumor, benign tumor and chronic inflammatory process. Now what are we to do with the woman who comes to us with these swellings of the breast? I would answer without hesitation, we are to determine absolutely by some certain means of diagnosis the condition that is present. It is not fair to allow a case to go away without that advice. Even though a tumor looks benign we should know that definitely and that usually means in the presence of a single tumor the removal of the tumor for gross and microscopic examination. There are certain conditions in which a benign tumor might be left



without any operative interference. Let me cite a few of these. A girl of twenty comes to you with two tumors in one breast and one in the other. They are perfectly movable and they are the size of cherries. They are with almost absolute certainty benign neoplasms, either cysts or fibro-adenomas. They are so small they are not disfiguring. Tumors of that kind can be safely left with the diagnosis that they are benign, but if they increase in size they should be removed.

Now in connection with these benign tumors I want to say a word in regard to the prospect of these benign tumors becoming malignant. I want to tell the story from my own clinical experience. Out of three or four hundred or more benign tumors that we have removed and have been able to follow in longer or shorter periods, I have never been able in but one instance and that occurred here in Milwaukee to follow out a case where we had diagnosed the tumor as benign and where later the patient came back with a malignant tumor, and from the theory of probabilities, inasmuch as 10 per cent. of women of cancer age died of cancer, it would be not at all surprising if quite a number of women who had benign tumors of the breast removed later developed carcinoma of the breast. Certainly there would be nothing unusual in one carcinoma of the breast in two or three hundred women who had benign tumors removed from the breast. I cite this because I am impressed with the fact that there is little or no reason for us to believe that benign tumors of the breast remain benign for years and then become malignant. I feel that that is not true. We must, of course, recognize the fact that any neoplasm may change from a benign condition into a malignant one, but I believe it is a very, very unusual thing and that it seldom happens and that there is little more danger of a benign tumor of the breast becoming malignant than there is of any other portion of that same breast becoming the site of a carcinoma. The confusing pictures which are so often cited of a tumor that looks benign and later becomes malignant are to my mind usually cases of tumors which have been malignant from the start, that is slowly growing malignant tumors. I feel, therefore, we are not warranted in telling a woman that she should have a tumor of the breast removed for fear it might become malignant, because I do not feel that that is true.

The real problem, of course, of breast tumors is that of cancer of the breast. Let us analyze this problem and ask ourselves what are the real facts in regard to the prospects of cure in cancer of the breast. Cancer, of course, is beyond ques-

tion originally a local disease and if we can make a radical operation of the breast when the carcinoma is the size of a bean or the size of a cherry, and the process is absolutely limited to the breast tissue and has not as yet invaded the draining lymphatics, there can be no doubt that the prospects of a permanent cure are excellent. There can be no doubt, for instance, that much more than 50 per cent. of the cases of carcinoma of the breast that are operated upon early before the axillary glands are involved are permanently cured by radical operation. Unfortunately, however, as the cases come to us the prognosis is not nearly as good. I should say that out of 1000 cases of cancer of the breast that come to well trained, competent surgeons, probably 25 or 30 per cent. of them are permanently cured by operation. The moral, of course, is that we should continue the propaganda, which we have already begun, through the profession, through the medical societies and through the special organizations, such as the Society for the Control of Cancer, to educate the public and the profession in the importance of having breast tumors inspected and properly handled very early.

The best surgical technique for the radical operation of the breast has become pretty well standardized, that is, the necessity of removing the mammary gland and overlying skin widely and underlying pectoralis major muscle and cleaning out the axillary fat and lymphatics. The dissection should be so planned that the block of tissue removed has at its center approximately the center of the primary focus; in other words, the dissection should be so planned that the periphery should be as nearly as possible equi-distant from the primary focus all around. My own experience has taught me that whenever the lymphatic glands in the axilla are grossly involved there is a poor prospect of permanent cure. I want to tell you why this is so. I want to sketch to you rapidly the lymphatic drainage of the breast. The lymphatics of the breast drain into the axillary glands and into the lymphatic glands in the anterior mediastinum along the internal axillary artery, into the posterior lymphatic glands in the posterior mediastinum along the intercortal arteries, into the lymphatic glands above the clavicle and also in a limited way into the lymphatics around the round ligament of the liver and the umbilicus. Although the large lymphatics of the axillary space can be easily palpated and are probably also the first involved and are involved to the greatest extent, at the same time it is true that the lymphatics in the anterior mediastinum are involved almost as early. Involvement of the posterior

mediastinal lymphatics follows shortly and then, of course, the lymphatics above the clavicle and the lymphatics about the umbilicus. We cannot remove the lymphatics in the mediastinal spaces and inasmuch as when the lymphatics in the axillary space are definitely and grossly involved, we as a rule at the same time have an involvement of the mediastinal glands, we have to deal in this group of cases with conditions which prevent permanent cure.

Little need be said in regard to the technique as far as anesthesia is concerned. Drop ether anesthesia is beyond question the anesthesia of choice. Amputation of the breast could be done with gas and oxygen, but unless there is some special indication, not nearly as safely as with drop ether. There is little or no reason for ever employing local anesthesia in extensive dissections and amputation of the breast. The operation, of course, can be done under local but it seems to me that it is stretching a good thing to the breaking point to adopt local anesthesia in radical breast work.

There is, of course, little or no mortality from the operation itself. The prognosis varies as far as the permanent cure is concerned from 50, 60, 70 per cent. in the very early cases in which the lesion is limited to the breast and there is no axillary involvement, to a vanishing percentage of recoveries in the cases in which the operation discloses a very widespread lymphatic involvement extending above the clavicle. As a whole, if we are quite truthful and include all of our cases, I think somewhere from 25 to 30 per cent. of permanent cures in cases actually operated upon are the results that are being obtained.

Can these results be benefited and improved by the x-ray? I think they can. Should radium be employed? I think not. I think the x-ray is of very much more value in the after-treatment of breast amputations for carcinoma than radium. I feel personally very strongly that it should be employed in every case, that it should be employed by an expert, that it should be employed thoroughly but short of any prospect of burning the patient. The logic is irrefutable. Time and again I have seen gross recurrent carcinomatous lesions, the size of a bean or the size of a cherry, disappear under x-ray treatment. It seems perfectly clear to me that if these gross, visible, tangible lesions can be made to disappear under the x-ray that the microscopic group of cells from which they sprung could be very much easier destroyed if the x-ray is used immediately after radical operation. This I think should be advised in every case. There comes a time, of course, in hope-

less cases where the x-ray evidently is of no value, where it holds out no prospect of benefit and where some other agent than the x-ray such as morphine had better be used for the purpose of making the patient as comfortable physically and mentally as possible without adding any possible injury from x-ray management.

In brief and in a simple way this seems to me to be the story of tumors of the breast as far as it can be told from the knowledge we possess to-day. These cases furnish us a real problem and a large problem and an every day, practical problem that must be met by the general practitioner and by the general surgeon and it can be met in the right way, if as a profession we educate the public, and we help to educate ourselves and our colleagues so that there will be a widespread knowledge among the laity of the importance of tumors of the breast, and the general knowledge that a small beginning carcinoma of the breast can be cured by proper surgical operation, that neglect of these cases means almost certain death, and it can be met properly only if the profession give to these patients the benefit of early diagnosis and early and proper surgical treatment. And may I emphasize the importance of not only giving patients with cancer of the breast the benefit of proper radical operative treatment, but of also treating those patients with benign tumors not by radical but by conservative methods.

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#### PROGRAM OF THE AMERICAN COLLEGE OF SURGEONS\*

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FRANKLIN MARTIN, M.D., F.A.C.S., Chicago  
Director-General, American College of Surgeons

The American College of Surgeons is a society of five thousand surgeons of the United States and Canada, who have allied themselves in this association for the purpose of improving the service which they are rendering to their patients. It comprises only a part of the one hundred and forty thousand doctors of the continent, who represent a profession which has already endeavored to command the respect of its people by serving them faithfully and honorably.

The surgeons of the American College of Surgeons are putting forth every possible effort to make better surgeons of themselves; to aid in providing better training for the specialists in medicine who are called upon to do surgery; to discourage unnecessary surgery by insisting upon a thorough diagnosis before an operation is at-

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\*Summary of Address delivered before meeting of the Tri-State District Medical Society, Milwaukee, Wisconsin.



tempted; to encourage physicians who desire to become surgeons to take a practical training in the art of surgery with surgeons of recognized ability before operating independently upon their fellow men and women; to encourage the establishment and maintenance of well-equipped hospitals in which the surgeon will have every facility for determining the ailment of the patient; and in which he can safely operate upon his patients; hospitals with safe nursing, safe sterilizing outfits, proper operating room facilities; hospitals that insist on honest and competent management and an ethical, moral and competent medical staff practicing scientific medicine.

The American College of Surgeons believes that the best surgery that can be done by the most expert diagnostician, in the safest environment that can be secured, is none too good and that every man, woman, and child is entitled to the very best surgery that can be obtained.

The American College of Surgeons believes that there is no state in the United States or no province of Canada that cannot furnish the very safest kind of surgery for its citizens if the medical profession and the citizens of the towns and cities of such states and provinces will get together and cooperate in helping each other in this problem.

The American College of Surgeons believes that this is a problem that interests laymen and medical men alike, and that the medical men cannot work it out without the sympathy, the aid, and the cooperation of all intelligent citizens.

During the last two decades, whole cities, states, and nations have improved their health because of the medical profession and its added knowledge. Whole armies have been saved from the ravages of diseases which but a short time ago devastated them far more than did the attacks and bullets of the enemy. The whole medical profession stands for health, strength, and the wholesomeness of all the people whom it serves. It stands for its own honor, and for science and it is opposed to quackery in any form.

The American College of Surgeons believes that every surgeon should prepare himself for his important work by a thorough education in the science and the art of his specialty; by a laboratory training in the technique of surgery; by an association in actual surgical work with a surgeon of ability and experience; and by a hospital training of at least two years, during which period he should become familiar with diagnostic methods and the pre- and post-operative treatment of surgical patients.

The American College of Surgeons believes

that a man who is ambitious to become a surgeon or a surgical specialist should learn to do surgery as an apprentice to or as an assistant to an experienced surgeon rather than to learn to do surgery by himself, attempting to operate upon human beings without having at his side an expert surgeon.

The American College of Surgeons believes that every individual who practices surgery should not only be thoroughly educated as a medical man, thoroughly familiar with and drilled in practical surgery, that he should do his work in an approved environment, but that he should be a man of the highest honor in his financial dealings with his patients and with his fellow practitioners.

The specialists of surgery who are represented in the American College of Surgeons are eye surgeons; ear, nose, and throat surgeons; obstetricians and gynecologists; orthopedic surgeons, and general surgeons—specialists who must be consulted by every citizen one or more times during his lifetime.

Instinctively, you will ask: "How can a man who belongs to one of these specialties and who has no influence or special acquaintance become a member of the American College of Surgeons?" The answer is very simple. Any man who is a legalized practitioner of medicine can apply for membership at any time. Any friend of any surgeon can ask to have an application blank sent to a surgeon. However, the surgeon must then qualify by following the program that has been outlined.

Thus any surgeon who is qualified professionally and who is honest may become a Fellow of the College of Surgeons. Is it not possible for some jealous competitor who is in the College to keep out an eligible applicant? That would be possible if our information about the candidate came from one source, but with our system of impartial investigation from several sources, such action is detected and frustrated. Such unworthy attempts may delay action, but they cannot prevent final favorable action on a qualified candidate.

Why should the layman be interested in the program of the American College of Surgeons?

The layman should be vitally interested in the program and the success of the American College of Surgeons because that organization stands for the upholding of scientific medicine and honest methods in the practice of scientific medicine.

What is scientific medicine?

Scientific medicine represents the practice of men who have been educated in the fundamental facts as revealed in the practice and research of

the science and the art of sanitation, hygiene, medicine, and surgery.

Scientific medicine teaches how to prevent the pollution of drinking water and makes it safe for you and your family to drink from the public hydrant in any city of the world that is under proper sanitary control.

Scientific medicine made it possible for General Gorgas to eradicate yellow fever and malaria from Havana and Panama, and in so doing established methods that have transformed these former pest places of disease into garden health resorts of the world; methods which when applied to the tropics of the earth will make these countries the center of culture and civilization.

Scientific medicine, not quackery, was selected by our government to care for our soldiers in the late war. Our soldiers, at first bewildered by the activities of the medical department, soon learned that their lives and comfort depended more upon the medical officers than upon any one other factor. In that first examination that was so irksome to them, one-third of their apparently healthy comrades were rejected because of slight physical defects, many of which, under early advice, were permanently remedied; they were vaccinated against small-pox, typhoid, and para-typhoid; they were taught what to eat, and how to exercise; their living quarters were regulated and ventilated, and their food and water were guarded against pollution; they were subjected to frequent inspection, and a constant effort was made to keep them well instead of waiting until they became ill before treatment was instituted.

They went in, many of them, as weaklings; and they came out, notwithstanding their hardships, as physically strong men. And this physical care has imparted to them a sense of adequacy and well-being that they had never before possessed. No wonder that they are asking: "Why can't this same care be extended to our wives, to our children, and to others in the normal community life?"

Scientific medicine aids us to conduct our hospitals, dispensaries, and asylums in a manner to insure the very highest degree of efficiency in caring for the sick in these institutions.

Scientific medicine has taught us how to diagnose surgical diseases, and how to operate in the safest possible manner and secure the most desirable results.

Scientific medicine is based on experimental medicine and surgery, and wherever animal experimentation will produce the desired results and thus not risk the lives of human beings, it is based upon animal experimentation.

Finally, all educated people know what scientific medicine has accomplished in providing antitoxins and sera for the prevention of diphtheria, typhoid, and para-typhoid fever; what vaccination has done to prevent small-pox; and what the application of sanitary measures has done toward eradicating common diseases.

The American College of Surgeons besides standing for scientific medicine also endeavors to establish among the practitioners of surgery a high standard of honesty and ethics.

Every surgeon who becomes a Fellow of the American College of Surgeons must subscribe to a pledge which stipulates that he shall not divide the fees received from his patients with his fellow practitioners in order to increase his business. In other words, he must not buy and sell his patients on a commission basis.

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## ETHICS IN FRACTURES\*

F. A. HENNESSEY, M.D., Calmar

Coincident with the somewhat chaotic condition of mankind since the close of the World War, and probably in a measure due to the numerous theories that have been advanced in ethics during the past centuries, so many theories in fact, that almost any type of an individual can find one to justify his acts, and their consequences from an ethical point of view, while the legal interpretation of the facts might be directly opposed to the individual point of view.

Some interesting facts are brought to our attention, when we review the number of cases of fracture that find their way into court procedure, following treatment and observation by some physician who did not render the first attention after the accident.

No doubt many of you are familiar with the statistics I am going to quote, but lest there may be some one who is not, I feel it worth while to give them to you as I can see no reason why any physician would not care to know them. These are given to me by the secretary of our State Society as furnished him by the Medical Defense Committee.

Over a period of fourteen or fifteen years there have been over 194 cases commenced and of that number seventy-nine have been fractures. X-ray burns come next, being six in number. Appendix cases five, and then various ones at three, two and one. Why such a large percentage of

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fractures? Surely they are not as frequent as appendicitis or confinement cases.

From April 30, 1921 to April 30, 1922 there have been twenty-five new cases filed, suit having been brought in thirteen of them—seven of these being fracture cases. No doubt an occasional case results from a very manifest deformity, but that does not prove that the individual may not have a functional result that is almost normal. I would like to ask what physician seeing such a case six months to two years after the original injury, without knowing the facts surrounding the case, such as type of patient, the living up to instructions, etc., can justify himself in passing judgment in the presence of the patient, or what is still worse appear on the witness stand giving evidence, without a knowledge of the facts on which to base his judgment. And yet such things have occurred and will no doubt continue to occur, but let us hope less often. During the past year I have seen a member of a county society appear as a witness against another member of the same society and as near as I have been able to determine his motive was utilitarian, as I believe he expected to receive the fee of an expert witness, but unfortunately he received the noble wages of \$8 or \$9.75. A peculiar but rather common mistake of ethics entered into, causing this case to appear in court, an excellent practitioner, a graduate of one of the best medical colleges of North America who gave an x-ray picture to the patient.

I have not been able to determine whether the medical profession of any other country has a code of written ethics; it is possible that the countries of Europe with long years of training in common custom do not need to have one; however, I do not think that we are quite ready to discard our code of ethics in this country, judging from conditions as we find them, and a person is led to believe that the code of ethics owned by most of us is liable to be somewhat of a dusty book in the book case. All physicians are supposed to have studied this code and to be familiar with its requirements.

The moral claim which it has upon you rests not upon any obligation of personal friendship towards your fellow practitioner, but upon the fact that it provides for every relation, emergency or occasion, and is found on the broad basis of justice and equal rights to every member of the profession.

To this code, in a great measure, is due the binding together and elevation, far above ordinary vocations, of the medical profession of this coun-

try, and the esteem and honorable standing which it everywhere enjoys.

Our attention should be called to the fact that the foundation of ethics does not change; the applications may vary, but the principles themselves remain unalterably fixed. No physician may alter the essential principles of medical practice nor deviate from them without violating the moral order.

I imagine a fine discussion could be provoked at this point as to whether or not ethics is variable. But suffice it to say that certain fields of investigation, too, present us with definite forms of knowledge, away from which the fairly well informed cannot be forced to turn. In physics for instance, we have the law of gravitation; in mathematics the multiplication table, etc. Every natural science will afford illustrations bearing on this head of generally accepted first principles. Any theory which makes of ethics a matter of expediency, policy or sentiment must be a failure. I would like to repeat this again, that any theory which makes of ethics a matter of expediency, policy or sentiment must be a failure. For the violation of this statement is the occasion of this paper. Is it not a sad state of affairs to find a Fellow of the American College of Surgeons, who disregards his code of ethics, and out of pure sentiment, giving damaging evidence against another member of that organization, in a case involving a fracture? Conscience is an act, a practical judgment on one's own action in some particular case. It is a rational faculty, not an emotional, sentimental power.

It has been my intention to treat this subject largely from the point of view, that a violation of ethics is the cause of such a large percentage of fractures entering into medico-legal cases. All of these cases without exception usually pass through the hands of two or three practitioners before the climax is reached and if it is proper in this paper I would like to suggest a plan of procedure when such a case comes into your hands. First—Never give a patient an x-ray plate or spend too much time interpreting it to the patient, as they have many faces and angles, and it is very easy for them to see the wrong one. Second—When called to treat a case previously under the care of another physician, especially if the patient is dissatisfied with his treatment, be carefully just. Let your conversation also refer to the present and future, and not to the past. Be guarded in your words and actions, and take no unfair advantage of some other physician's apparent errors. Third—Always bear in mind that two wrongs never make right.

In conclusion, a word concerning the reward for different vocations in life: we speak of wages as due to common laborers, of a salary as paid to those who render more regular and intellectual services; of a fee as appointed for official and professional actions.

Wages may be measured by the time bestowed, or by the effect produced, or by the wants of the laborer to lead a life of reasonable comfort; a salary is measured by the period of service; but a fee or honorarium is not dependent on time employed, or on needs of support, or on effect produced, but is a tribute of gratitude due to a special benefactor. This is the ideal which makes the medical profession so honorable in society. Let us not by anger, greed or malice destroy this substantial foundation on which our predecessors built so well.

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## MISTAKES IN THE TREATMENT OF FRACTURES\*

HOWARD L. BEYE, M.D., Iowa City

(From the Department of Surgery, State University of Iowa)

There is probably no single group of cases which causes a physician more worry and gives him less satisfaction, no matter what the outcome, than fractures. In this group of cases the physician has constantly before him the ghost of civil action in case the patient does not get a result which he feels he is entitled to, whether the seemingly poor result is due to ignorance or negligence on the part of the physician, or due to the nature of the injury itself. In truth all too frequently poor results in these cases are due to mismanagement on the part of the physician responsible, because the fundamental principles involved in the treatment of fractures are either not understood or are neglected, and it may be very difficult to explain away the poor result to an interested jury. Unfortunately, these cases will often times be brought to court when the physician has done everything humanly possible to obtain a satisfactory result.

It is therefore incumbent upon every man who assumes the responsibility for the care of a fracture to exercise careful judgment, to give constant attention to every detail and to employ every available means to the end that the best result possible shall be obtained. This is necessary not only that the patient may obtain the best possible result, and of course that should be the primary

consideration, but also that the physician himself may be fully protected in the eyes of the law.

In the surgical service of the University Hospital many cases of fracture are treated, both recent and old. All too frequently cases are sent to the hospital when the initial treatment has failed to promise a satisfactory result, but too late for the patient to be given that treatment which would have been chosen had the case been seen early. It is oftentimes difficult honestly to protect the doctor who has had charge of the case from the criticism of the patient or relatives. In this paper I will bring out the errors which are more commonly made in the treatment of fractures. These errors are not confined to the general practitioner. In our hospital service we must consequently be on the watch to see that all of the details essential to the proper treatment of fracture cases are carried out, and some of the unsatisfactory results which we have had are directly attributable to failure to observe these fundamental principles.

### Errors in Diagnosis

The greatest number of bad results in fracture cases are obtained because of failure to recognize that a fracture is present. This is due to incomplete examination of the site of injury and especially to failure to have x-ray plates made in those cases where such diagnostic aid is clearly indicated.

In the examination of a patient to discover a fracture the physician must not expect that there will be present the old text-book signs of crepitus, false point of motion and deformity. When these are to be found the diagnosis could be made by a freshman medical student. In indefinite cases the history of trauma and the presence of tenderness over bone are the two most important points in the diagnosis. Loss of function may be strikingly absent. In the examination of the injured limb it is invaluable to compare the findings with the uninjured limb.

There is very little excuse for failure to use the x-ray in the diagnosis of bone and joint injuries. It is extremely uncommon that any patient is in such condition that he cannot be transported to a neighboring town or hospital for such examinations. Except in such instances the only legitimate cause for failure to use the x-ray will be refusal on the part of the patient to incur the expense or the trouble, and in such cases it is best for the physician to have such refusal in writing with the patient's signature attached.

There are a certain group of fractures which seem to be particularly difficult of diagnosis un-

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til too late to obtain satisfactory results by proper treatment. Of these, fracture of the neck of the femur heads the list. This is frequently diagnosed as a sprain or a bruise and all too frequently as a dislocation, and in the latter case the resultant manipulation is likely to be a very hazardous procedure for the patient. The classical signs and symptoms of fracture are frequently absent especially in the impacted fractures. If physicians would realize that any fall on the hip in a patient over fifty years of age is likely to produce a fracture of the neck of the femur many errors in diagnosis would be obviated, and it should also be remembered that a dislocation of the hip in a patient over fifty is a rarity.

Colles' fracture with impaction and without the typical silver fork deformity is frequently overlooked, the diagnosis here being made of sprained wrist. In this type of case careful examination will demonstrate a very definite and usually marked line of tenderness just above and distinct from the line of the wrist joint. It should be borne in mind that in these cases there is frequently an associated sprain of the wrist. Fracture of the neck of the humerus is commonly diagnosed as a sprain or as a dislocation of the shoulder. As in a fracture of the neck of the femur considerable damage may be done by the manipulation instituted in attempting to reduce this supposed dislocation. An impacted fracture at this site is not infrequently overlooked entirely until many days after the accident the patient consults his physician again because of continued pain and loss of function. A Pott's fracture without deformity may simulate a sprained ankle unless the examining physician takes care to localize the tenderness which will be present distinctly over the line of fracture. In this type of case the complete loss of function which one associates with fracture may be absent.

A greenstick fracture of any long bone, occurring in children especially, is very easy to overlook. The classical symptoms of fracture are absent and the local tenderness is often not marked. You have all seen cases I am sure in which there has not been sufficient discomfort to cause the patient to consult a physician until several days had elapsed after the injury. This type of fracture is particularly likely to involve either one or both bones of the forearm, and the clavicle, tibia and femur less commonly. Fractures which are very likely to be undiagnosed involve the scaphoid of the carpus, the astragalus, and a compression fracture of a vertebral body which does not produce cord or nerve lesions. All

of these three may cause considerable trouble at a variable period after the injury.

Failure of the fracture to unite is the greatest source of danger in those cases in which fracture has not been diagnosed and treatment therefore not carried out. This is particularly true in cases of fractures through the neck of the femur whether impacted or not. Another cause of bad result in these overlooked cases will be a deformity which tends to increase. In the process of repair of a fracture there is always some bone absorption. In a greenstick fracture or an impacted fracture this absorption may so weaken the bone in the line of injury that the muscle tensions of the extremity or the stress and strain of weight bearing may cause deformity and it may be this symptom alone which takes the patient back to his physician. It is worth while noting that this bone absorption may often times be used to an advantage by the physician to obtain the correction of an angular deformity in an incomplete fracture which could not be overcome at the time of the initial care.

Excessive callus is often times developed in an untreated fracture due to the stimulation of the bone by movement in the fracture line. This not infrequently will lead to mechanical interference with function especially when the fracture is in the neighborhood of a joint or tendons. Another end result may be persistent pain and swelling even though the fracture may be healed.

#### Errors in Technic

Imperfect reduction is the cause for the greatest number of failures after error in diagnosis. In this group it is usually unfair to blame the physician who has managed the case, because the nature of the fracture may have been such that better reduction was impossible. Granting that every care has been used to obtain satisfactory position of the fragments, the physician is very much at fault if the result has not been carefully checked up by x-ray findings, and it should not be necessary to state that a single plane view is not adequate. Plates must be taken in two planes, which are at right angles to one another.

If unsatisfactory reduction has been obtained, the physician must not be satisfied until further attempts have been made. If these fail then he must decide whether the functional result which will probably be obtained in the case will be satisfactory, or whether an operative reduction should be done. It is always best to talk this matter over very frankly with the patient or his relatives, and the responsibility for decision should be shared by them after the facts have been carefully

studied. Not uncommonly, the unfriendly feeling that a patient will have toward his physician will be due to the suspicion on the part of the patient that the doctor has not been frank and honest with him in the handling of his case.

The value of the fluoroscope as an aid to the reduction of fractures has not been sufficiently stressed by writers on fractures. It is of inestimable value in fractures of both bones of the forearm in which condition satisfactory reduction is so difficult, in transverse fractures of the shaft of the femur which seem so easy of reduction and are usually so stubborn, and to a less extent in fractures of the tibia.

Improper immobilization is another cause for poor results. The usual mistake made is to immobilize insufficiently. The common splints that one sees in most doctors offices are too frequently unsatisfactory. Plaster of Paris has no equal as the means of immobilizing an extremity for a fracture but it must be used skillfully and with judgment. One of the fundamental principles in the immobilization of a fracture is that the joint above and the joint below the line of fracture should be included in the immobilization. This is a rule which is frequently overlooked and there are few exceptions to it.

Any splint if applied too tightly may be the cause of serious trouble. Pressure necrosis over bony prominences is the most common. This can be obviated by careful protection of bony points by padding. It should be very strongly emphasized in this connection that a splint must not be used to overcome a deformity by exerting pressure against it, but is only a means of holding the part immobile in a desired position after reduction has been accomplished. Another vicious end result is due to interference with the circulation from an improperly applied splint. This is most likely to occur in the use of plaster as a circular bandage. Fortunately this is not a common disaster, but a Volkmann's contracture is one of the tragedies of surgery.

Immobilization in an improper position may be contributory to an unsatisfactory end result. Fractures of the lower end of the humerus should be dressed with the elbow in as extreme flexion as can be obtained without interfering with the radial pulse. This allows of the maximum of flexion in case there is to be limitation of motion when union has occurred. A Pott's fracture should be dressed with the foot at right angles and slightly inverted so as to overcome the tendency to flat-foot which often times is the cause of a bad result following this fracture. A fracture of both bones of the forearm should be

dressed mid-way between supination and pronation. In this position the radius and ulna are farthest apart and the chance for synostosis is minimized. The fracture through the neck of the humerus is best immobilized with the arm at right angles to the body and in abduction. This insures the greatest range of motion in the shoulder joint. A fracture through the femoral neck is best treated by the Whitman position—complete abduction with cast immobilization—to insure the proper angle between the shaft and the neck so that coxa vara will not be the cause of bad function if union occurs. These are just a few of the common fractures in which the position of immobilization is important to insure the most satisfactory end result.

Too short a period of immobilization is another cause for poor fracture results. This is particularly true in fractures of the femur. A physician is usually too anxious to get his patients up before sufficient hardening of the callus has occurred to warrant stress and strain being put upon it without injury. Gradually increasing deformity may then take place such as the development of coxa vara in fractures through the femoral neck, or bowing in a femoral shaft fracture or in a fracture of both bones of the forearm. Excessive callus may be stimulated with functional interference, or the fracture may remain persistently painful and tender.

#### Principles Which Should be Observed in the Treatment of Fractures

The x-ray must be used; for diagnosis, to determine the reduction which has been obtained, and to demonstrate healing. Plates must be made in two planes at right angles. Skiagraphs taken of the corresponding uninjured and injured areas on the same plates are very instructive and may be necessary when an epiphyseal line confuses. The fluoroscope is of the greatest value as an aid to reduction in certain fractures.

Immobilization of an extremity should include the joint above and the joint below the line of fracture.

Bony prominences must be protected.

Fractures should be reduced as soon following the injury as possible. Do not wait for swelling to subside as there is no surer way to control the swelling than by reducing the fracture. The longer deformity exists the greater and more prolonged will be the swelling with increasing damage to the soft tissues.

When using plaster of Paris circular casts on an extremity the toes or fingers should be left exposed to determine the circulation. Do not ap-



ply a circular cast unless the patient will be under your observation for at least twenty-four hours following its application.

Do not control the pain of a fracture following the application of a splint by morphine. If the patient is having sufficient pain to require morphine you must assume that the splint has not been applied properly and is doing damage.

Give the patient positive and definite instructions as to when he should return to you and what he should do following the removal of splint or cast. Lack of such instructions may lead to trouble.

Keep accurate records of all procedures relating to a fracture case.

If the result following attempted reduction is not satisfactory, make up your mind to that effect soon, take the patient into your confidence regarding the true conditions and ask for a consultation.

Conscientious massage and careful active and passive motion following the removal of splints will aid markedly in the functional result.

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## THE LABORATORY PRACTICE OF MEDICINE\*

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It is not my purpose to detail the history of the development of this branch of medical science. Many of you have lived and practiced medicine during the period in which have been established the greater number of the multitudinous laboratory procedures now in vogue, and the story of their origin and growth, interesting as it might prove, is not germane to the theme which I wish to discuss.

I would like to emphasize, however, the huge proportions to which this side of medical practice has grown. From the little shelf and the old sink in the back office, with a test tube or two, an alcohol lamp and a few ounces of nitric acid, to the extensive suites of rooms housing roentgen-ray and radium appliances, serological and bacteriological apparatus, workers in blood chemistry, in gastric and urinary analysis, in basal metabolism, in tissue pathology, with adjacent laboratories for application of the experimental methods in the modern study of disease, is such a monstrous "jump" that the mind can hardly successfully comprehend all of the complexities of the present situation. In former days the physi-

cian who was fortunate in his education and progressive enough to possess the apparatus might make a blood count or a gastric analysis; at any rate if his patient were to receive the benefits of an examination of the urine, this examination, or any other test, must perforce be made by the doctor himself in his own office and in the rush and hurry of the duties of a general practitioner. Today it is just as impossible for the physician to do his own laboratory work as it is for any one person to do all his laboratory work for him. A whole corps of specialists with trained technicians are demanded and in each branch the methods have become so highly individualized that there is little or no overlapping between their various fields. The roentgen-ray worker is no longer a tissue pathologist and the serologist oftentimes couldn't make a blood count or determine the alkaline reserve, if his life depended upon it.

The patient of a few years ago came into the doctor's office and everything, history, examination, tests, and treatment, even to the medicine, were furnished in that office and by the doctor himself.

The patient of today passes through the hands of a score of doctors, his ailments are critically examined by experts in each field, every important physiologic function is weighed by ingenious balances and the impairment of any vital reserve is judged by some objective standard. The sum total of all these efforts, carefully reviewed, will often tear away the mask from insidious or early disease processes and throw into clear relief the hidden sources of weakness. The danger exists that in the tendency to exalt the mere machine the desired work which it is to perform will be given secondary place, that the best interests of the patient will be replaced by the best *interest* of his physician, that mechanical methods, instead of serving as useful adjuncts to diagnosis, will be overemphasized, to the neglect of that careful study of the patient himself without which no real progress in the prevention and cure of disease can ever be achieved.

This danger is sometimes so real that the end result may appear to have become a travesty on the true practice of medicine, a *reductio ad absurdum*.

And so indeed the result would actually be, if it were not for two equally good and sufficient reasons. The first is that no system for the practice of medicine which ignores the human element can ever be a success, and the second is, that the more painstaking, the more careful, the more thorough the practice of medicine becomes,

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the better in general will the best interests and the welfare of the patient be conserved.

The surest indication of the mind growing old, of which I am aware, is the tendency to select the best things of the past and by comparing them with the worst features of the present exalt the former and decry the latter. "There were giants in those days" is the favorite topic of conversation, whenever a few greying heads gather together, and doctors are no exception. I have already given evidence of this tendency and I need only add a few remarks about the wonderful old fashioned family physician, his powers of diagnosis, his skill at getting the best results under the worst conditions, his ability to soothe the disordered minds of his patients as well as to heal their bodies, and very shortly the elders in our midst will feel that the practice of medicine has truly come upon evil days. There *were* giants in those days, and we glory in the memory of their achievements but we are living in a present which shows real progress in the growth of the medical sciences and we cannot, nor is it wise to try to stem the tide of this advancement.

Beyond any doubt, the patient of today, for whose physical defects search is made by the fine tooth comb of modern clinical and laboratory methods, is in infinitely safer hands than he was in the olden days when he was wholly dependent on one man's necessarily limited capacity and more or less well developed intuitions. Just as the microscope broadened tremendously the scope of our vision and the depth of our knowledge of tissues, so the finer machinery of diagnosis has increased many fold our power to clearly comprehend the disease processes underlying any given syndrome. In a competition between the typesetting machine and the journeyman's stick, between the jackknife and the lathe, between the scythe and the automatic binder, there can be only one result.

A few days ago, a patient in coma was received into a modern clinic, without history or details of present attack. In a short time and without harm to the patient, uremia, high blood-pressure, leukemia, pernicious anemia, and infection were provisionally excluded and pancreatic diabetes with acidosis was strongly suggested. Appropriate treatment promptly undertaken, tided the patient over his collapse, and he now faces the hope of an increased span of life with all that such an increase may mean to him and his associates. To us here, such an event is perfectly simple but it is quite certain that forty, no twenty years ago, in a similar condition, he would have had to perish, no matter in what portion of the world he might have

been found, and even now in many doctors' hands his case would be hopeless of solution. Examples of similar purport could be endlessly multiplied. The high basal metabolic rate which reveals the status, as well as the menace of a toxic adenoma, the rare parasite in the stool which explains a mysterious dysentery, the reaction of the serum which serves to reveal a hidden syphilis, an atypical typhoid, a pancreatic diabetes or an impending acidosis, the electrocardiogram demonstrating the true condition of the conducting bundles of the heart, the roentgen-ray exposing a calculus in the ureter, a cancer in the colon or an ulcer in the duodenum, a microscopic section showing the early malignant growth. The list might be extended indefinitely.

These procedures are not mere substitutes for more careful work on the part of the physician; they are distinct additions, often measuring the difference between success and failure in diagnosis and treatment, and occasionally the difference between life and death itself.

And when death finally does occur, as occur it must, so long as nature rules, the best type of laboratory medicine does not cease. The complete post-mortem examination, the careful inquiry into the causes of possible failure to make a proper diagnosis or to give a proper therapy, the scientific investigation into the correlation and explanation of clinical phenomena and pathogenesis of disease, constitute an assurance that the dead shall not have died in vain.

By each death which may take place while the patient is under the care of a physician, that physician is made a debtor to his own best interests, but what is more important, also to those of his confreres and humanity in general. This debt can only be discharged by the most thorough search possible into the fundamental causes of the conditions which brought about that death, by a critical analysis of the entire conduct of the case, with frank acknowledgment of any sins of omission or commission, and by such publicity as will bring about a further enlightenment of the profession and the public with respect to the best means by which disease may be prevented or diagnosed and treated.

The tendency in every branch of commercial life to eliminate the personal equation and make each procedure mechanical and automatic, has spread to other fields and in medicine it sometimes seems, has almost become a plague. Human nature instinctively approves any custom which economizes physical or mental energy and at the same time promises an increased measure of accuracy. Hence, when the earlier laboratory ex-



aminations demonstrated their reliability and often amazing value, they inevitably were employed, not so much as an aid to the standard methods of diagnosis but as a substitute for these methods, as a short-cut which made possible the elimination of many of the laborious efforts of former times, in which experience, keenness of perception, memory for details and an inspired enthusiasm for the work itself were often almost the sole armamentaria, so far as diagnostic aids were concerned. The real danger seems to lay, not in the fact that by the laboratory tests of the urine obscure conditions in the urinary tract might become more clearly manifest, but in an almost certain result of this helpful procedure, namely the undue dependence by the lazy, the incompetent and the inexperienced doctor, on the urine examination alone as the sole means of arriving at the truth. He is asking a machine, quite efficient within its limits, to bear a load greater than can be justified on any reasonable grounds.

But this evidence of inherent human frailty cannot be advanced against the general usefulness of the laboratory practice of medicine. The abuse of their opportunities by the mentally and morally unfit has probably been present since the world began and will undoubtedly occur under any and all circumstances as long as the world endures. Such objections therefore cannot be applied with any force to the present conditions. The dishonest doctor will just as certainly ruin the complex organization as he has always run riot in his private practice.

There is a temptation, however, which is peculiar to those who gather together to treat the sick and because of its subtle nature and its rather harmless aspects, the most conscientious may succumb. I refer to that tendency, which belongs to all collective organizations, whereby in the very nature of the work, full responsibility for each individual case manifestly cannot be shouldered by each member of the organization. Consequently responsibility is divided and shared, and, in the extreme instance, entirely removed. Theoretically if each did his part and the machinery of the organization were running perfectly, no trouble could occur. Practically, it occasionally happens that through misunderstanding or rigid adherence to system, the best interests of the patient may not be fully served. Occasionally real neglect of a given task is excused by the vague hope, that, in some way, the organization itself will take care of what under other circumstances would be an individual duty. The solution of this difficulty, which is the greatest that the clinic group may face, is a fairly simple one.

In the last analysis about 25 per cent of the legitimate practice of medicine is concerned with physical ailments, while the remaining 75 per cent. has to do with the mental status of the patient, his relatives and his friends. For this latter moiety no laboratory procedure can ever replace the skillful, discerning, sympathetic personality of the physician himself. It becomes quite clear, therefore, that each member of the staff with whom the patient comes in contact must be perfectly certain that when that patient is turned over to the care of some other member, there is a complete assumption of responsibility, and that in turn his care will never be given up by any succeeding member of the group, until there is assurance that the next one can and will so fulfill his function as a physician that the full "100 per cent. practice" may be completely realized.

It is not difficult to entertain a friend by seeing that others help in the best way possible to fill in his time. Our patients must be treated as our friends. This altruistic attitude toward the practice of medicine is just as necessary in the laboratory physician as it is in the members of the clinical group. Each must practice the art and the science of medicine to the utmost of his ability and in no instance must there be omitted a single measure which might really benefit either mind or body.

Whether every doctor who works for the patient's best interests, shall personally come into contact with him or his friends, is immaterial. At times it will be proper for the laboratory consultant to see the patient and when he does, he should practice medicine just as any other consultant would do.

Perchance after all some of us do not "believe in" the laboratory practice of medicine and we have decided arbitrarily, that such an era shall not be instituted. We argue for the return of the good old days of the family doctor and the "golden age" of the general practitioner.

For all such, there is little hope that their desires will, or can, ever be fulfilled. The evolution of medical education and practice in the unfolding of its growth is as resistless as the progress of nature in other fields. We are in the presence of a transition stage in which we may be able to influence the manner of its development, but we are unable to change its general direction. The days of the general practitioner are passing, never to return again. Medical education has modified its product to correspond with the inevitable trend of events. It makes but little difference whether these transitions agree with our notions of what is best, or whether we are bitterly opposed to

them. It would be much more rational, instead of uselessly expending our energies combatting changes which must take place in the very nature of things to admit freely that we are rapidly approaching the time, if it has not indeed already arrived, when no one physician alone can or should administer to a diseased individual; that such a patient has not had a fair chance unless he has had the combined services of those adequately trained in the many branches of medical science. Admitting this fact and accepting its implications, we can reap the satisfaction of keeping in step with the progress of scientific medicine and we can fulfill our part in assisting the expansion of what is probably to prove the most glorious period in all the history of medicine.

### INFECTIOUS JAUNDICE

The undersigned is desirous of obtaining information regarding the prevalence of infectious jaundice in your state.

The disease is non-reportable and information regarding its prevalence cannot therefore be obtained from boards of health. I shall be grateful for any reports of outbreaks which your readers may care to send me.

George Blumer, M.D.,  
195 Church St., New Haven, Conn.

### IMPORTANT ANNOUNCEMENT

The medical profession will be interested to learn that The Abbott Laboratories of Chicago have purchased the Dermatological Research Laboratories of Philadelphia. This is an advanced step for The Abbott Laboratories and will give them deserved recognition among the manufacturers of medicinal products.

The Dermatological Research Laboratories were the first in the United States to produce arsphenamine during the war; and these laboratories became well known to the medical profession for their patriotic attitude in developing and manufacturing medicinal preparations in this country. By this purchase of the "Dri" products, The Abbott Laboratories inherited their prestige.

The Abbott Laboratories acquired control of the Dermatological Research Laboratories November 1; and are continuing to operate them in Philadelphia under the direction of Dr. Geo. W. Raiziss, head of the department of chemistry. Orders for "Dri" products will be promptly filled from the Philadelphia laboratories or from their branches or distributors. For further particulars regarding the purchase of the Dermatological Research Laboratories, the readers of this Journal are referred to the statement of The Abbott Laboratories on advertising

page vi of this issue, entitled, "Important Announcement to the Medical Profession."

### THE ANNUAL COLLECTION

The 1923 dues for membership in the Iowa State Medical Society are now due. The component County Medical Societies should now, or at the earliest possible time, hold meetings as convenient, at which time the dues should be paid to the County Secretary. If it is not possible for a meeting to be held and the dues collected en masse, the County Secretary should send out a notice to each member that collection time is once more at hand, and request that both county and state dues be paid to him at once. All dues are payable on or before February 1, after which time a member who has failed to make his payment, becomes delinquent and is automatically suspended. Suspension means relinquishment of all benefits derived from organized medicine, among which none is of greater importance than medico-legal protection.

Members should recall that the responsibility of paying the annual dues naturally falls on each individual and not on the officers or the secretary of the County Society, so see to it that an opportunity is given at which time the dues may be paid. When the County Secretary sends you a notice, please be prompt to return the amount requested so that the Secretary may make out his roster of membership to forward, with the dues, to this office at the earliest possible time.

The right to register at the Annual Session of the State Society is based entirely on membership, and the presentation of the annual card is prima facie evidence that the person holding it is entitled to register and take part in the meetings.

Knowing that each and every member who reads this will comply at once, I bespeak a Happy and Prosperous year for the various component County Medical Societies and the Iowa State Medical Society.

With the Season's Greetings,

Cordially yours,

Tom B. Throckmorton,  
Secretary.

The National Board of Medical Examiners announces the following dates for its next examinations:

Part I: February 12, 13 and 14, 1923.

Part II: February 15 and 16, 1923.

The fees for these examinations have been continued at the reduced rate for another year. Applications for these examinations must be forwarded not later than January 1, 1923. Application blanks and circulars of information may be obtained from the Secretary of the National Board, Dr. J. S. Rodman, Medical Arts Building, Philadelphia, Pennsylvania.



# The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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## THE QUESTION OF REPRESENTATION OF THE SECTIONS IN THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

We do not quite understand the fears expressed in certain quarters of the dangers of the section delegates voting, no one has stated a concrete example of injustice or wrong doing, and we may, therefore, conclude that the objection rests upon a theory of organization. There is no doubt that the association has a perfect right to fix the qualifications of its voting Fellows under the constitution in a constitutional manner. The American Medical Association is made up of Fellows and Members and for convenience of operation is divided into sections. Primarily each state is allotted a certain number of delegates based on membership in state medical societies and these delegates constitute the House of Delegates who have the right to vote on all questions submitted to it. There is no doubt under our theory of government that the right to vote should be limited to the state delegates who represent the Sovereign States. This was the theory of the Constitution of the United States. It is true that the theory of "States Rights" have received some shocks, but the theory of State Sovereignty has never been changed. It was thought that each section should be represented in the House of Delegates for the very obvious reason that the work of the Sections should be brought to the attention of the House of Delegates for their advise and direction, but in

our opinion, the right of representation should not carry with it the right to vote. The section delegate should bring his report if he has one, and the right to discuss it and to answer questions, then his function should cease. He should have no voice in the House of Delegates beyond the business of his Section.

His relation should be as it has been proposed to give Cabinet members the right to appear before Congress in the interest of their departments. If it is desirable to have a larger House it should be by increasing the number of state delegates.

This argument is presented not because we have objections to the present methods but simply on Constitutional grounds.

## DR. GEORGE H. SIMMONS

The Canadian Medical Association Journal in the August number publishes from its "Editorial Chair" an interesting abstract of an address by Dr. George H. Simmons as President of the Institute of Medicine of Chicago.

The admiration we have for the editor of the Journal of the American Medical Association is seconded by the Canadian Journal and it gives us pleasure to note some of the things Dr. Simmons says. In 1848 Dr. Oliver Wendall Holmes was Chairman of a Committee of the American Medical Association on medical literature. The number of medical journals published in the United States was twenty, that in 1903 the number had risen to 230 and has declined to 120 in spite of a remarkable increase in periodicals devoted solely to scientific medicine. Dr. Simmons says: "a distinct change in type of papers appearing in medical journals today compared with twenty years ago. The therapeutic article of the past, replete with favorite prescriptions, often proprietary in character, has given way to scientific contributions on therapeutic methods, on pharmacology, on pathology, on etiology, on methods of diagnosis, on prophylaxis." It does not appear that there has been a diminution in the volume of writing for publication notwithstanding the reduction in the number of journals. We are informed that the Journal of the American Medical Association is now receiving from 1400 to 1500 manuscripts a year, exclusive of the papers submitted to the sections of the annual meeting. Dr. Simmons estimates that three-fifths of the manuscripts voluntarily offered are returned. There are of course many reasons for rejection; the first is lack of space. Some good papers are rejected because written in a careless and rambling manner, due to the absence of plan, the author

goes in a round about way to express his views or to reach a point. We cannot note all Dr. Simmons says in relation to preparing manuscript for publication, coming from an editor of vast experience and great skill the address should be read by the younger men at least, who have an ambition to appear in the medical press. It would be of immense value to prospective writers for medical journals to write out their cases in an analytic manner, read over and rewrite until they are satisfied that a clear, understandable, accurate and logical product is reached. The young man begins with his local society and produces a well planned paper, or he writes a careless and rambling paper in which perhaps the most important point is lost. If he begins in this latter manner of preparing papers it will become a fixed habit and disappointments will come when he appears before larger and more critical audiences and offers his manuscript for publication.

#### ETHICS OF FRACTURE CASES

In this number of the Journal is a very suggestive paper by Dr. F. A. Hennessey of New Hampton under the above title. Dr. Hennessey is perfectly correct in his statement that a physician should never give to the patient of another doctor an x-ray plate nor should he demonstrate the plate for obvious reasons. Commercial x-ray laboratories do not come under this rule because being commercial are not under ethical control. To meet just such questions we published in the July number of the Journal, page 300, Resolutions adopted by the Radiological Society of North America adopted at its Annual Meeting in Chicago.

Resolved by the Radiological Society of North America that it is the sense and judgment of this society, that all roentgenograms, plates, films, negative, photographs, tracings or other records of examination are hereby declared to be the exclusive property of the radiologist who made them (or the laboratory where they were made); and be it further resolved, That the ethics of this society shall be in full harmony with the principles of medical ethics of the American Medical Association with the following additions to-wit: The radiologist is hereby declared to be a consultant in all cases where he is called upon to examine patients. The radiologist shall not make known to patients, their relation, friends or guardians any of the findings or conclusions, nor shall he deliver to them any plates, negatives, films or prints unless expressly requested to do so by the physician or surgeon who referred the patient for examination, or is in charge of the case.

This rule of action is absolutely necessary to

prevent dangerous claims for damages even in cases where the results are good.

With a little juggling the x-ray machine may make a perfect result appear bad even if there is no fracture at all. There are certain hospital x-ray operators who are very careless about this and appear to take delight in exploiting their skill before the wondering patient. Such practice should be discouraged.

#### OFFICIAL BULLETIN OF THE AMERICAN COLLEGE OF SURGEONS

Boston, October 23.—Hospital service to the public in Iowa has shown a marked advance in the past year, according to the fourth annual report of the American College of Surgeons released here today. This report is based on a survey which includes personal visits to each hospital of fifty beds or over in the United States and Canada. The following hospitals were given a place on the "approved" list.

Finley Hospital, Dubuque.

\*Iowa Congregational Hospital, Des Moines.

Iowa Lutheran Hospital, Des Moines.

Iowa Methodist Hospital, Des Moines.

\*Iowa State College Hospital, Ames.

Jennie Edmundson Hospital, Council Bluffs.

\*Lutheran Hospital, Sioux City.

Mercy Hospital, Cedar Rapids.

Mercy Hospital, Council Bluffs.

Mercy Hospital, Davenport.

\*Mercy Hospital, Des Moines.

\*Ottumwa Hospital, Ottumwa.

Park Hospital, Mason City.

St. Francis Hospital, Waterloo.

St. Joseph's Mercy Hospital, Clinton.

St. Joseph's Mercy Hospital, Dubuque.

St. Joseph's Mercy Hospital, Fort Dodge.

St. Joseph's Mercy Hospital, Mason City.

St. Joseph's Mercy Hospital, Sioux City.

\*St. Joseph's Mercy Hospital, Waverly.

St. Vincent's Hospital, Sioux City.

University Hospital, Iowa City.

\*Samaritan Hospital, Sioux City.

The asterisk indicates hospitals which have instituted measures which insure scientific medical care to their patients, but which have not realized them to the fullest extent to date.

"The institutions listed above proved that they are giving the best of scientific care to their patients," declared Dr. Franklin H. Martin, Director-General of the American College of Surgeons. "Aided by one of the great educational foundations, we have carried on actual visits to hospitals, made by trained medical men who see working conditions as they are. For the first time this year we have surveyed hospitals of fifty bed capacity and up. These institutions as well as the larger hospitals show a marked improvement the country over and places Iowa in



the forefront of states who are active in medical progress.

Iowa is to be congratulated on its splendid showing and on the medical men, hospital superintendents, and trustees who have made this advance possible."

### FOREIGNERS AS ASSISTANTS IN ITALIAN CLINICS

On the initiative of the Italian League for the Protection of National Interests, the Faculty of Medicine of the University of Rome has granted foreign physicians the privilege of entering the Medical and Surgical Clinics of the University of Rome in the capacity of assistants without salary—a measure which has been adopted with marked success by the Universities of France.

These Roman Clinics are under the direction of the greatest Italian physicians and surgeons.

The following places are available for the next academic year, which begins in the first week of November: two places in the surgical clinic; two places in the medical clinic; two places in the obstetrical clinic; two places in the dermosyphilopathic clinic; two places in the clinic for mental and nervous diseases; one place in the orthopaedic clinic.

Foreign physicians are admitted also to the numerous finishing courses offered by the Medical faculty of Rome.

Applications may be addressed to the president of the faculty of medicine of the University of Rome accompanied by a certificate of graduation and a favorable recommendation from the president of the applicant's medical school.

Applications with documents will be received also by the Italian League for the Protection of National Interests—(Lega Italiana per La Tutela degli Interessi Nazionali) Roma (8) Corso Umberto Primo No. 101, which will furnish all required information.

### THE AMERICAN MEDICAL ASSOCIATION OF VIENNA

The American Medical Association of Vienna wishes to have you announce through the columns of your Journal, the restoration of friendly understandings between their organization and the teaching body of the University of Vienna.

A special committee, elected by the association, after a thorough investigation of the charges of discrimination against Americans, which were reported by members of our association and published in our recent memorandum to your Journal, find that the men, who made the accusations of discrimination were either unable or unwilling to substantiate these charges under oath—further the courses in question were not so called book courses and consequently were not under the control of the A. M. A. of Vienna.

It is the sentiment of this association, that the men of the teaching body of the University of Vienna have suffered by this unjust criticism.

We further wish to state, that through the efforts of our special committee, working with a like committee from the teaching body, sufficient numbers of book courses in English in all branches may be had at prices of from \$3 to \$5 per hour for the group, taking such courses.

We are very glad to announce this return of friendly relations between the teaching body and our association and hope that this communication will be given the same publicity as was given our former memorandum.

JOHN J. GELZ,  
BERNARD KAUFMAN,  
WM. WILSON,

Committee.

### SOCIETY PROCEEDINGS

#### Hardin County Medical Society

The Hardin County Medical Society held its regular meeting at Ackley Wednesday, September 13, with physicians from Iowa Falls in attendance. The program included addresses and discussions by physicians from this county, and invited guests, physicians, from other places. Among other physicians, the following were on the program: A. F. Byfield and Frank Novak of Chicago, and Drs. Keyser and Wahrer of Marshalltown. The program was given in the afternoon at the Plaza theater, there was a banquet at 6 p. m. at the Methodist church.

#### Mills County Medical Society

The Mills County Medical Society held its annual meeting December 7 at the Iowa Institution for Feeble-minded Children, Glenwood. The county hospital question was the subject for discussion and Drs. T. B. Lacey, G. V. Coughlin and M. S. Campbell were appointed as a committee to investigate the law relative thereto. The following officers were elected: President, Edgar Christy, Hastings; vice-president, I. U. Parsons; secretary, M. S. Campbell, Malvern. It was voted to hold bi-monthly meetings, and the next meeting of the society will be held at Malvern, February 8.

#### Iowa County Medical Society

The regular meeting of the Iowa County Medical Society was held in public library of Marengo, November 29. Dr. F. W. Bush, Van Horn, read a paper on Osmosis Applied; Dr. F. O. Blossom, Marengo, a paper on the Treatment of Typhoid Fever; a report of a case was given by Dr. C. F. Watts, Williamsburg. An interesting discussion followed the reading of the papers. Dr. J. E. Dvorek, Blairstown, and Dr. Ciney Rich, Williamsburg, were elected to

membership. Fifteen physicians were in attendance, and the following officers were elected for the ensuing year: President, W. P. Hutchins, Marengo; vice-president, H. G. Moershel, Homestead; secretary-treasurer, F. O. Blossom, Marengo. Delegates, C. F. Watts, Williamsburg and J. C. Ross, North English.

F. O. B.

#### Jasper and Marion County Medical Societies

A joint meeting of the Jasper and Marion County Medical Societies was held in Pella Thursday, September 28.

The program was as follows:

Deep X-ray Therapy, Dr. A. L. Yocum, Jr., Chariton. Focal Infection, its Relation to Other Foci, and Systemic Disease, Dr. James C. Hill, Newton. Presentation of a Case of Brain Tumor with Clinical History, Dr. Wm. E. Sanders, Des Moines. Worthem Obstetrical Film.

Dinner was served at 7 p. m. in the Ladies' Dormitory of Central College, followed by a most interesting program of music, readings and an admirable address by Dr. M. J. Hoffman, president of Central College. Dr. Carl F. Aschenbrenner presided as toastmaster and was in his usual good form.

The meeting was a success as is evidenced by the attendance of forty some members of the profession from Jasper, Marion and neighboring counties, while seventy-five doctors, their ladies and guests were present at the dinner.

The physicians of Pella are to be congratulated for being such admirable hosts.

Dr. C. S. Connell, Sec'y.

#### Jones County Medical Society

There was a generally attended meeting of the Jones County Medical Association at Mercy Hospital on Wednesday evening, September 13. Papers were read by Dr. H. F. Dolan of Anamosa, Dr. C. G. Thomas of Monticello and Dr. Hagen of Wyoming. There was a general discussion and also a social side of the gathering including a supper for the members served in the hospital dining room.

#### Pocahontas County Medical Society

The Pocahontas County Medical Society held its second annual picnic at Fonda, Iowa, August 22, which was well attended despite the inclement weather—a great number of visiting doctors being present from towns outside the county. Many of the physicians were accompanied by their wives. The society was honored by the presence of Dr. Saunders, President of the Iowa State Medical Society; Dr. A. W. Patterson, president of the Society, presided.

The scientific program was held in the Knights of Columbus hall. Dr. J. E. Russell of Ft. Dodge read a well prepared paper on Cause of Obscure Fever in Children.

Dr. W. W. Brown of Ft. Dodge gave a very excellent paper on Appendiceal Abscess. Following the papers and a session of scientific discussion a social time was enjoyed.

A. P. Maloney, Secy.

#### Polk County Medical Society

The regular meeting of the Polk County Medical Society was held at the Grant Club, September 26, 1922.

Program: Hernias in Infancy and Childhood, F. W. Fordyce, M.D.; Hyperemesis Gravidarum, Daniel F. Crowley, M.D.

The Grand Army of the Republic being in session, members of the medical profession of the organization were invited to the dinner and also invited to participate in the program, among those who accepted the invitation were Dr. Lewis Stephen Pilcher of New York, editor of the *Annals of Surgery* which is now in its seventy-sixth volume. Dr. Pilcher organized the *Journal*, was its first editor and has continued in that capacity without interruption. Dr. Pilcher has been in medicine fifty-seven years and retains a degree of vigor and youthfulness which promises another fifty-seven years. Thirty-eight years as editor of one of the great surgical journals of the world is a remarkable record. Another distinguished guest was Dr. George F. Harding of Ohio, father of President Harding. Dr. Harding is seventy-seven years of age and has been engaged in the practice of medicine fifty-one years, is still active in practice. He is at the present time city physician of his home city but expects to resign at the end of the year. The writer sat next to Dr. Harding at the table. Dr. Harding is a friendly guest and free to talk of professional matters. He assured the writer that Warren is a good boy but that his other son is just as good. He started one as a printer and the other as a doctor. We were left to infer which road to success and distinction is the best. Dr. Harding is a vigorous man with apparently many years before him. His title to membership in the G. A. R. comes from the fact that he served in the 136th Ohio Volunteers. It was a hopeful sign when the distinguished guest was conducted from the hall to attend the governor's reception by Clyde Herring, democratic candidate for U. S. Senator from Iowa.

#### Scott County Medical Society

The Scott County Medical Society resumed its meetings September 5. The main address was by Dr. E. M. Eisendrath of Chicago, Kidney Surgery.

#### Wayne County Medical Society

The Wayne County Medical Society met at the Majestic Theatre in Seymour on Thursday evening September 21. Twenty-two physicians were present from both within and without Wayne county. The following officers were elected: President, W. G. Walker, Corydon; vice-president, Dr. Corbin, Miller-



ton; secretary-treasurer, Dr. G. H. Sollenbarger, Corydon; board of censors, Dr. B. S. Walker, Corydon; Dr. G. W. Hinkle, Harvard, and Dr. U. L. Hurt of Seymour.

Following the election of officers, Prof. O. E. Klingaman head of the University Extension Department of the State University gave an address, explaining in detail the features of the Shepherd-Towner Maternity bill. Afterwards a scientific motion picture of seven reels was shown covering the subject of "Child Birth," in its Normal and Abnormal Phases. These pictures were of a very high character, many of them being taken in Vienna, following this a lunch was served.

#### Woodbury County Medical Society

Dr. Donald McCrae, Jr., of Council Bluffs addressed the first meeting for the fall and winter season of the Woodbury County Medical Society at the West Hotel September 25. His subject was The Gastric and Duodenal Diagnosis Question.

Dr. McCrae considered the differential diagnoses of ulcer of the stomach and of the duodenal.

No business was transacted by the society. Dr. R. F. Bellaire, president, presided and Dr. Victor Brown, secretary.

#### Botna Valley Medical Society

The annual meeting of the Botna Valley Medical Society was held October 5 at Avoca and attended by a number of local physicians, some of whom had places on the program. Dr. F. W. Porterfield of Waterloo, was to have been on the program but he was prevented by illness from attending. The rest of the program was as follows:

Regular business and election of officers.

Focal Infection, Dr. A. D. Dunn, Omaha, Nebraska.

Ectopic Pregnancy with Case Reports, Dr. R. A. Becker, Atlantic.

Gastro-Intestinal Disturbances in Children Under One Year, Dr. Roy Smith, Walnut.

Infant Feeding, a Practical Consideration, Dr. Fred Moore, Des Moines.

Fractures of the Carpal Scaphoid, with Lantern Slides, Dr. A. F. Tyler, Omaha, Nebraska.

The Treatment of Head Injuries, Dr. Grant Augustine, Council Bluffs.

Hernia Complications, Dr. C. L. Campbell, Atlantic.

#### Iowa X-Ray Club

Members of the Iowa X-Ray Club will gather in Boone Wednesday, October 4, when they will be guests of Drs. C. A. Noland and Ben T. Whitaker, local members of the club. Aside from the club members, the Boone County Medical Association will be guests as well as other X-ray men of Iowa.

Features of the meeting will be talks by Drs. Louis F. Talley of Marshalltown and T. A. Burcham of Des Moines.

The forenoon will be devoted to clinical cases and those attending will participate at 12:30 in a luncheon at Hotel Holst, which will be followed by a business meeting. It is probable that at this time a reorganization will be effected.

The afternoon will be occupied with the study of bone pathology from films furnished by the members. The complete program follows:

8:10 a. m. Open house, Dr. Whitaker's office, 703 Eighth street, and Dr. Noland's office, First National Bank building.

10-11:30. Clinical cases, Dr. Whitaker's office.

11:30-12:30. Clinical cases, Dr. Noland's office.

12:30. Luncheon Hotel Holst followed by business session.

2:30. Study of Bone Pathology, Dr. Talley of Marshalltown leading in the discussion of differential diagnosis and Dr. Burcham of Des Moines, on treatment.

#### AMERICAN UROLOGICAL ASSOCIATION

At the annual meeting of this association held at Atlantic City, May 26 to 28, officers for the coming year were elected as follows: President, Dr. Henry L. Sanford of Cleveland; vice-president, Dr. James A. Gardner of Buffalo; secretary, Dr. Homer G. Hamer of Indianapolis and treasurer, Dr. James B. Cross of Buffalo. Rochester, Minnesota, has been chosen for the place for the next meeting.

#### DR. HENRY G. LANGWORTHY

Dr. Henry G. Langworthy of Dubuque was one of the active figures at the recent convention of the Iowa Association of the Deaf, held in that city August 22-26. It will be remembered that in 1916 and 1917 Dr. Langworthy as chairman of the Conservation of Vision and Hearing Committee of the Iowa State Medical Society raised several hundred dollars to assist in passing educational legislative laws to transfer the state school for the deaf at Council Bluffs from the board of control to the state board of education, where it rightfully belonged. Up to that time the deaf school had been under the same jurisdiction and board which handled the prisons and asylums of the state. The second bill successfully passed and placed upon the statute books, as first published in the columns of this Journal, provided for the establishment of day-schools for deaf children up to ten years of age. After a good deal of work and the co-operation of the State Medical Society, much constructive work was done relative to defective children and of deaf children, which has served to place Iowa in the front rank of the states of the country along this line. The doctor was also one of the chief instruments in organizing the Iowa Association of Parents of the Deaf at Des Moines, and through good judgment and ability has helped to preserve the fullest cooperation and harmony on the

part of all friends of the deaf in the state. This co-operation between the day schools and the state school, between the Iowa Association of the Deaf, the Iowa Association of Parents of the Deaf and the Iowa State Medical Society, has rapidly become



DR. HENRY G. LANGWORTHY

known as the "Iowa Idea" throughout the country, since it is the term used by the Iowa men themselves, and first employed by the principal, Dr. J. S. Long of the Council Bluffs school for the deaf.

Dr. Langworthy at the August convention of the deaf, presented plans to the Association of the Deaf for the organization of an endowment fund for the deaf of the state of \$100,000, which plan was unanimously adopted by the deaf delegates at their convention. At this meeting the doctor was elected a life member of the Iowa Association of the Deaf by the delegates present, an honor not often accorded a hearing man.

#### PERSONAL MENTION

Dr. Henry Young of Manson entered the practice of medicine in Calhoun county, fifty years ago this month, and invited in the members of the Calhoun County Medical Society and wives and a few doctors from outside to celebrate his fiftieth anniversary at a six o'clock dinner last Thursday afternoon, September 28. A real feast was served, not only a feast of excellent eats, but also a feast of reminiscences of other days. After dinner the following toasts were given: Legislative Work of Physicians, Dr. D. J. Townsend, Lohrville. Early Medical Days, Dr. Ellen Souder, Rockwell City. The Country Doctor, Dr. C. J. Saunders, Ft. Dodge (president Iowa State Medical Society), Dr. F. E. Kauffman, president of the Calhoun County Medical Society, acted as toastmaster, and after the program presented Dr. Young with a beautiful floor reading lamp as a little token from the society members, their wives, and friends of Dr. Young in Manson. Dr. Young responded in a very feeling and pleasing manner, and gave a beautiful tribute to the practitioners of other days. The

following were present, Drs. Saunders, Evans and Martin, Ft. Dodge, and the following doctors and wives, Townsend and Eisenburg, Lohrville; Van Camp, Somers; Taylor, Pomeroy; Young, Prettyman, and Hendricks, Manson; Carstensen, Jolley; Beach, Cooper, Eslick, Van Metre, Souder and Norton, Rockwell City; Pray, D. W. McCrary, W. E. McCrary, and Kauffman, Lake City. Besides there were from Washington, D. C., R. E. McCann, Mrs. Bess Cox McCann, and the following friends and relatives from Manson, Mrs. M. H. Cox, Mr. and Mrs. Frank Mack, Edna, Jean and Mary Howell, Mr. and Mrs. J. W. Young and Henry Young, Sr.

At Iowa City, October 10, a memorial tree was planted in the station grounds to Dr. Wm. D. Middleton, Mrs. S. C. Plummer (Dr. Middleton's eldest child), was sponsor. Professor McBride, president S. U. I., made a short address.

Dr. Fred Montz will open an office in Lowden. Dr. Montz is a graduate from the medical department of Iowa State University and has had a year's work in a Cedar Rapids Hospital.

Dr. L. K. Gundrum of Fontanelle has sold his practice to Dr. R. D. Russell of Rome, Georgia. Dr. Russell had two year's service in the U. S. Army during the World War.

E. W. Schumacher, medical masseur and expert in hydro-electro-therapy recently of Chicago, has located in Waverly and opened an office in the Savings Bank building. He has worked with Dr. Carl Beck in the North Chicago Hospital, with Dr. Priestley of Des Moines and with Dr. Arthur Steindler in Iowa City. Mr. Schumacher is a graduate of King University, Berlin and of the University of Heidelberg.

Dr. H. E. Meyer has sold his interests in the Hampton Clinic and closed his work at the Lutheran Hospital.

Dr. Howard A. Weis, a graduate of the S. U. I. College of Medicine in 1918, and a member of the hospital staff here has located in Davenport, where he will specialize in obstetrics. Dr. Weis plans to limit his practice to the treatment of women. During the four years since his graduation he has been connected with the University Hospital and has specialized in the branch which he will practice in Davenport. He has an office at 503 Security building there.

The home of Dr. F. M. Shriver on North Vine street, Glenwood, was the scene of a merry birthday gathering on Wednesday afternoon, September 13, when his comrades of the Civil War gathered in commemoration of the seventy-seventh anniversary of his birth.

Dr. and Mrs. Samuel Bailey returned Friday from a two weeks' visit at Doctor Bailey's boyhood home in Rock Island county, Illinois.

Dr. Malcolm A. Royal, a graduate of the college of medicine of the university in 1906, has been appointed state chairman for Iowa of the American Institute in Homeopathy's National Clinic Day. More



than 10,000 physicians and surgeons are expected to take part in observing this day.

Dr. Tom B. Throckmorton, secretary, and Dr. F. E. Sampson, field director, presented the "Iowa Idea" at the Conference of State Secretaries called by the A. M. A. at Chicago November 17 and 18.

Dr. J. B. Robb of Russell has removed to Chariton.

Dr. R. W. Henderson, who recently located at Lone Tree taking the place of the late Dr. Day, will locate in Bismark, North Dakota.

Dr. J. I. Clinite of Estherville has moved to Seattle, Washington, where he will continue in the practice of medicine.

Major H. R. Reynolds, formerly of Clinton, Iowa, who served three years in the U. S. Army and who has for the past two years served at the Veterans' Public Health Service Hospital No. 67, Kansas City, Missouri, has been transferred to the Veterans Psychopathic Hospital, Boston, Massachusetts.

Dr. W. W. Kitson of Des Moines, came to Avoca recently and closed a deal by which he takes possession of the office of the late Dr. G. A. Spaulding and will follow the practice of medicine. Dr. Kitson is a graduate of the medical department of the Iowa State University at Iowa City. Since graduating he has been practicing at Des Moines.

Dr. Herbert Pease for the past fifteen years a practicing physician of Slater, has purchased the office equipment, library, instruments, etc., of the late Dr. F. J. Drake, Oelwein.

The following doctors of Iowa county spent some time during the month of November at the Mayo Clinic, Jesse Ross, North English, W. P. Hutchins, Marengo and C. F. Watts, Williamsburg.

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### HOSPITAL NEWS

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Plans for the Upper Iowa conference of the Methodist Church to take over St. Luke's Hospital of Cedar Rapids involving the expenditure of \$100,000 an addition will be acted on by the conference in its session at Mason City.

Miss Anne Goetsch, who has been assistant superintendent at the Washington County Hospital for the past several months, has handed in her resignation to take effect the latter part of this month. Miss Goetsch is planning to go to Chicago, where she will take some post graduate work at the Chicago Lying-in Hospital.

Mercy Hospital, Clinton, has purchased the magnificent residence known as the Disbrow home adjoining the hospital for a nurses' home.

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### Laboratory and X-Ray, Mercy Hospital, Dubuque

Fifteen rooms are occupied by the laboratory and x-ray department. Two large well lighted laboratories are equipped with all the appliances and chem-

icals known to clinical medicine, as an aid to diagnosis. The x-ray department is provided with four complete units: one machine being used exclusively for taking pictures and one machine is devoted entirely to fluoroscopy. The super x-ray machine is used only for x-ray therapy. The fourth unit is made up of the latest ultra-violet water-cooled and air-cooled Burdick lamps used for treatment of skin conditions and for their bacteriocidal action.

Dr. Johnston is in charge of both the pathological and the x-ray departments. As assistants he has four well trained technicians, one record keeper, one stenographer and three nurses. Dr. Johnston is a graduate of the University of Michigan where he spent three years in pathology and two years in x-ray. The last year was spent very recently as an instructor under Dr. James Van Zwaluwenberg, one of the most capable roentgenologists in this country. This along with the fact that he operated a power house on St. Anthony Falls in Minneapolis for two years before attending college, makes him especially qualified for his work.

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A great modern Protestant Hospital to cost not less than \$500,000 will be erected in Sioux City in the not distant future. It will be under the direction and receive the constant support of the Methodist Episcopal Church, which is becoming extensively engaged in hospitalization throughout the United States. The new institution will be under the immediate supervision and authority of the northwest Iowa conference.

Plans for the erection of a \$250,000 hospital building at Twenty-ninth and Douglas streets, Sioux City, were approved at a meeting of the board of the New Samaritan Hospital Association.

The new hospital will have from 100 to 125 rooms, and will be of modern, fireproof construction.

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### ORPHANS NEED HELP

---

The Christian Home Orphanage of Council Bluffs, Iowa, which cares daily for 250 children, and which, for nearly forty years, has been a haven for thousands of destitute children from all parts of the country, and which depends wholly upon the voluntary contributions of charitable people for its support, has felt the effects of the close times to such a degree that unless speedy and liberal help comes, the work will be seriously injured. In order to keep its doors open to the hundreds of little ones that apply annually for food and shelter, the home is appealing to the public for donations to clear the work of debt and enable it to meet the calls that come to it daily. We urge our readers that they send a donation as liberal as possible to help this worthy institution. Address The Christian Home Orphanage, Council Bluffs, Iowa.

## OBITUARY

Dr. Elwood C. Heilman died at his home, in Ida Grove September 4, 1922 of angina pectoris, age sixty-six. He was graduated from the Medical College of Ohio in 1877 and was a pupil of Dr. Barthelow, whom he greatly admired. He came to Ida Grove from Cedar county, Iowa, and was the first permanent physician in Ida county and enjoyed the largest practice of any physician of the county. His son, Ernest S. Heilman, graduated in medicine in 1901 and began practice with his father; later Dr. Heilman entered the firm and they secured a building for a hospital and the firm has operated the same to the present time. Dr. Heilman was greatly admired by the physicians of the county and at his burial the older physicians acted as pall bearers. The inclosed copy of a letter to his family signed by the physicians of the county shows the respect and esteem in which he was held by his fellow practitioners. The Doctor was much interested in education and was president of the board of trustees of Morningside College at time of his death.

## Resolutions

To Mrs. E. C. Heilman and Family:

The physicians of Ida county wish to express to you their deep sympathy in your bereavement. As fellow workers with Doctor Heilman we fully appreciate the value of his character. The oldest and the pioneer physician of the county his example has inspired in us a better view of life and a broader vision of the relation of the physician to the community. The hardships and dangers of the early days seem to have broadened his sympathies and kindled the spirit of kindness that brought comfort and hope to every home he visited. Dr. A. L. Wright once remarked, after seeing him examine a patient, that "he was the best bedside physician he had ever known." In consultation he always brought confidence to the physician and settled conviction to the home. His companionship we will all miss. His sense of humor, his affability and ready wit gave life to our meetings and wings to our fears. His zeal for community betterment broadened his activities and here his true metal shone to its best advantage. No community wrong was too small for him to notice or too great to prevent his challenge. He believed firmly in education and scores of young men and women who were helped by him to complete their schooling are the best proof of the earnestness of his belief. His love of children and respect for the aged stand out as the true measure of the real physician. His charity for faults and easy forgetfulness of wrongs endeared him to us. The path he chose to Calvary was straight, he dug his own steps, thorns and crumbling dirt could delay but not prevent his progress to his goal. His memory we cherish, his example we will strive to follow. Together we mourn his loss, together let us hope to emulate his virtues.

The committee follows: G. C. Moorehead, E. S. Parker, R. B. Armstrong, T. J. Houlihan, E. W.

Bookhart, A. M. Bilby, M. B. Grubb, Glen Millice, George H. Crane, C. L. Putnam, C. G. Britthauer, A. H. Bullock, C. S. Stoakes, George A. Hartley.

Benjamin Clarence Stewart was born October 1, 1878, on a hill farm in Switzerland county, Indiana. He grew to early manhood as a hard-working farmer boy, attending the district school in the winter months. By the help and inspiration of an elder sister the nervous, diffident, though none the less ambitious boy was induced to enter the Madison High School. After graduating he came West to Monona county, Iowa, and engaged to teach a country school near Moorhead.

In the fall of 1898 with one brother practicing, another a student, he determined to take up the study of medicine. This time he needed no persuasion. Men are sometimes said to be called to a vocation, if this is so, Dr. Stewart was clearly called to become a practitioner, bringing to his work an honesty of purpose, loyalty and energy not too often found.

His college career was not brilliant but satisfactory to the faculty. He graduated from the S. C. C. M. in the spring of 1902 and with a certificate as interne in the Samaritan Home for a period of nearly three years he was ready to assume the weighty responsibilities of a small-town doctor. Taking his diploma at face value, he located at Ute, Iowa, for the practice of medicine and surgery. With the exception of an interval of some months at Sioux City, Iowa, in the year of 1918, he labored almost incessantly for more than eighteen years without proper rest or mental refreshment.

On March 14, after an unusually hard run of difficult cases the break came and the instruments he had so long wielded were laid aside forever. When the warning came he hastened to the Mayo Clinic, with which he was so familiar, for advice and treatment but to no avail and on August 12, 1922, passed to his reward.

Dr. Stewart was united in marriage May 11, 1904 to Mary A. Scott, a native of Scotland. Mrs. Stewart was a trained nurse of high ideals, and was not only a great help to the Doctor in his work but a companion in the truest sense of the word. One child, a daughter, was born to them.

He was not a man of striking personality nor, as the world knew him, of pleasing address. In his intense concentration he missed some of the little amenities of life. Yet he loved men for their worth and likewise they loved him. He was broad and general in his reading and interests. He knew how to hate a crook and respected honor. He was fond of finding counterparts among those he met and associated with, to the Uriah Heeps, the Micawbers, the Falstaffs and Shylocks. It is doubtful though, vivid and subsequently lurid as his imagination was, if he ever visualized himself as a character in life's drama, doomed to play a part rivaling if not surpassing, in pathos, that of Jean Valjean.

C. E. Stewart, M.D.



The death of Dr. Alexander R. Craig removes an important figure from the executive department of American medicine. Since 1911 Dr. Craig has served as a most efficient secretary of the American Medical Association. Always genial in manner he was never so busy that he could not give information and advice to all who sought it. In a great association composed of so many men, often of divergent views, it was no small task to maintain a friendly spirit and prevent discord which was often very near surface. Dr. Craig's sense of right was highly developed and the spirit of justice inherent in his nature had been highly cultivated by education and environment, and with a degree of patience rarely seen in men of affairs he became an ideal secretary of one of the most important bodies of medical men in the world. Behind a most encouraging smile was a firmness of character that invited the respect of all his associates. It was the writer's privilege to serve with him on several reference committees, particularly on report of officers at a time when discord threatened and when a skillful chairman was of vital importance. It was indeed a fortunate day when Dr. Craig consented to accept the important office of secretary.

Dr. Alexander R. Craig was born in Columbia, Pennsylvania, July 31, 1868, the son of a physician, graduated A.B. from Franklin and Marshall College, Pennsylvania in 1890, the A.M. degree in 1893. He received his degree of Doctor of Medicine from University of Pennsylvania in 1893. In 1920 Franklin and Marshall college conferred the honorary degree of Doctor of Science. After serving as resident physician at the Philadelphia Polyclinic Hospital 1893-1894 he practiced in Philadelphia until 1895 when he removed to Columbia, Pennsylvania, where he practiced two years and then returned to Philadelphia where he practiced until he was elected secretary of the American Medical Association at the Los Angeles session, 1911. The election came as a recognition of his fitness for this high and responsible position. His skill in directing the sessions of the House of Delegates was most exemplary. His knowledge of the matters to come before the House and the arrangement of his papers and notes greatly expedited the business of the sessions and brought him the greatest good will of the delegates.

Dr. Craig died of uremic poisoning at Port Deposit, Maryland, September 2, 1922 at the age of fifty-four years. His loss to the association will be a severe one and his place will not be easily filled.

Dr. L. E. Park, perhaps the oldest practicing physician in Marion county, died at his home in Tracy, Wednesday, October 4, 1922, of angina pectoris, aged sixty-seven years, nine months and one day.

When about three years' of age his parents removed to near Attica, Marion county, and about two years later they again removed to the old farm home, about five miles west of Lovilia, Monroe county. Here he grew to manhood, working on the farm, passing through the country schools, qualifying him-

self as a teacher and following that profession for eight years, during which time he also attended the Keokuk College of Physicians and Surgeons at Keokuk (since merged with the medical department of Drake University, Des Moines), graduating in the class of 1880. He also took a post graduate course in Chicago Polyclinic, Chicago in 1904.

He commenced the practice of medicine in Marysville, with Dr. S. Druitt in 1880 and here on August 2, 1882, he was married to Mary F. Birely. She still survives him.

He removed to Tracy on April 12, 1882 and here he continued the practice of medicine until the time of his death—a period of over forty years, during which time he was pre-eminently identified with the professional, business, educational, church, social and fraternal interests of the community.

His practice extended over a radius of many miles as a physician of the old school, "family doctor" type, whose life was devoted to the service of humanity through his profession. In addition to his regular practice he was for many years a surgeon for the Wabash railroad company. He was a member of the Iowa State Medical Society and of the Marion County Medical Society, having served the latter as president a few years ago.

---

Dr. Theophilus Sprague died September 28, 1922. Dr. Theophilus Sprague was born at Hilum, Staffordshire, England on November 23, 1846 and was the son of James and Mary Fulford Sprague. He came to America in 1854 and to Sheffield in 1857. His early life was spent on a farm. At the age of seventeen years he enlisted in Company G, 66th Illinois Western Sharpshooters, and participated in the battle of Snake Creep Gap, Calhoun Ferry, Rome Crossroads, and marched with Sherman to the sea. At Raleigh, when Lincoln was assassinated, the 66th proceeded to Richmond, Fairfax Court House and Washington to the grand review on May 2, 1865. He was mustered out July 13, 1865 and read medicine under Dr. J. L. Morgan at Sheffield. He graduated from Rush Medical College in 1870 and located in Russell, Iowa for eight years, returning to Sheffield in 1878 where he practiced until July of this year. His "Memoirs of the Civil War" were published as a serial in the Sheffield Times in the summer of 1920. He was past grand commander of the Grand Army of the Republic and constantly held office in the Bureau County Soldiers' and Sailors' Association and in the county, state and national medical societies.

Dr. Sprague was married to Miss Elizabeth Jones at Sheffield in 1871. To this union nine children were born. Mrs. Sprague died August 20, 1896. In 1899 Dr. Sprague was married to Miss Martha Peterson, daughter of Mr. and Mrs. John Peterson of Sheffield.

The Doctor leaves his wife, Martha Peterson Sprague and his two sons, William and Benjamin.

Dr. C. Lester Hall of Kansas City, Missouri, died at his home in Kansas City, June 10, 1922.

Dr. Hall will be remembered by the older members of the Western Surgical Association as one of the most courteous and most distinguished of the original members of this association. Dr. Hall graduated from Jefferson Medical College in 1867. Soon after graduation he located in Kansas City and became active in medical affairs of Kansas City and of the state. He was president of the Missouri State Medical Society in 1895.

Dr. F. R. Mehler of New London, Iowa, died September 24, 1922. Dr. Mehler was born in New London May 23, 1874, and was the only son of Dr. F. C. Mehler, an esteemed physician of New London. He attended the Medical College of Physicians and Surgeons at Keokuk and graduated in 1900, after which he commenced practicing with his father and continued in his profession until within a short time of his death. During the war he enlisted and went as lieutenant with Unit R, overseas, giving sixteen months of his valuable service in the hospitals in France.

Dr. A. H. Peters, formerly of Low Moor, died at Beth-El Hospital, Colorado Springs recently following an operation for appendicitis. Dr. Peters was forty-nine years of age. He was a graduate of Keokuk Medical College.

Dr. Henry C. Doan, pioneer physician and surgeon of Humboldt, suffered a stroke of apoplexy, in his office about midnight Monday night, November 6, and died within fifteen minutes.

Dr. Doan had attended the Fathers and Sons banquet that evening and appeared in the best of spirits. Those who sat at the table with him said that he seemed to be in unusually jolly mood. He returned to his home, and about midnight answered a call from a patient. He went to his office to prepare some medicine, and there suffered the stroke that ended his life. He felt it coming on, and called Dr. Arent on the phone, telling him that he had a stroke. Then he threw open a window and called for help. Some few minutes later Dr. Arent arrived, but by that time the stricken man had lost consciousness, and shortly passed away.

Dr. Henry Clay Doan was born on a farm in Benton county, Iowa, April 10, 1855; his early education was received in the public schools, and his medical course was secured at the University of Michigan Medical School, Ann Arbor, from which he graduated in 1884, this same year locating at Humboldt where he built up a successful practice. The Doan block of Humboldt is a tribute to his financial success, and the home with its picturesque grounds, attributing his love of nature. He was one of the organizers of the Humboldt County Medical Society and a member of the Iowa State Medical

Society, and for years he had been an active member of the Congregational church.

### MARRIAGES

Dr. G. R. Cutter of Council Bluffs and Miss Josephine Gage were married at Sabula recently. Dr. Cutter is an interne at the Jennie Edmunson Hospital. Both are graduates from Iowa State University.

Dr. B. Raymond Weston of Mason City and Miss Dorothy Ellen White of Oskaloosa were married at Oskaloosa, September 7, 1922.

Dr. J. C. Kassmeyer of East Dubuque and Lillian May Minges of Dubuque were married at St. Edmond's Catholic Church at Oak Park, September 9, 1922.

Dr. Howard A. Weis and Miss May Disent were married in Iowa City August 31, 1922. Dr. Weis is a graduate of the Iowa University Medical School, 1918. He will locate in Davenport.



### THE NEW HOME OF HYNSON, WESTCOTT & DUNNING OF BALTIMORE

This national drug firm has just erected and occupied its own building at Charles and Chase streets, Baltimore. The building is artistic in appearance and adapted to accommodate the several departments of their rapidly developing business which began in a small way in 1889, but has grown to a million a year, with an organization of 125 people. Their unique sales department alone comprises nineteen men who visit physicians in all parts of the United States but do not sell goods. Thirty-five of their products have been accepted by the Council and are advertised in this Journal. None of their preparations are offered direct to the public but are introduced to the medical profession for the use of physicians and their patients. Mr. H. P. Hynson, one of the founders, died in 1921; but their growing business has now been established in new quarters under the immediate supervision of Messrs. James W. Westcott and H. A. B. Dunning with a highly trained force, equipped to meet promptly the demands of the medical profession anywhere and at all times.



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DR. TOM B. THROCKMORTON  
Secretary



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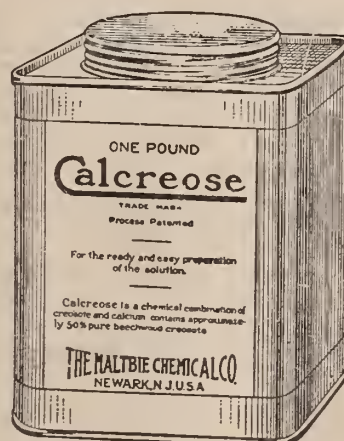
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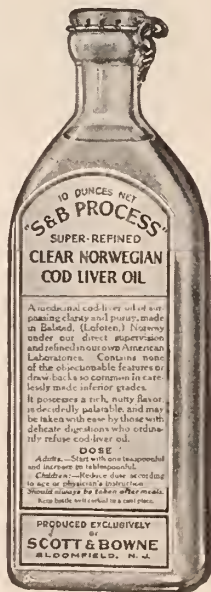
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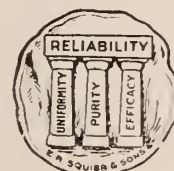
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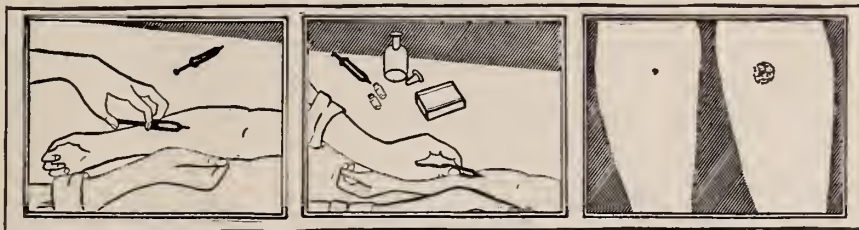


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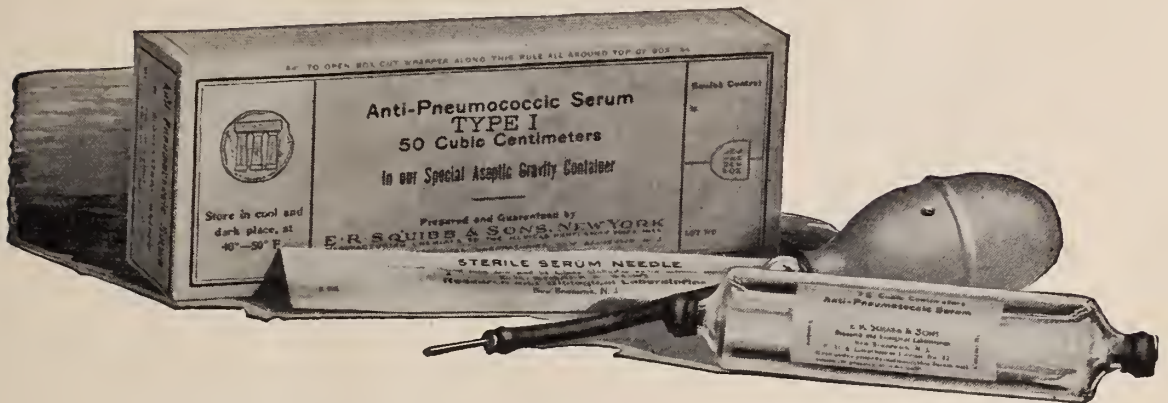
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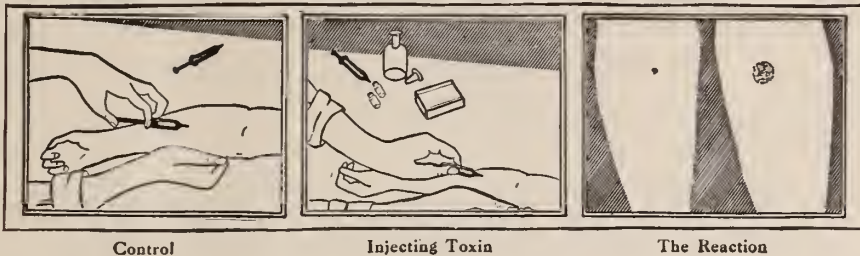


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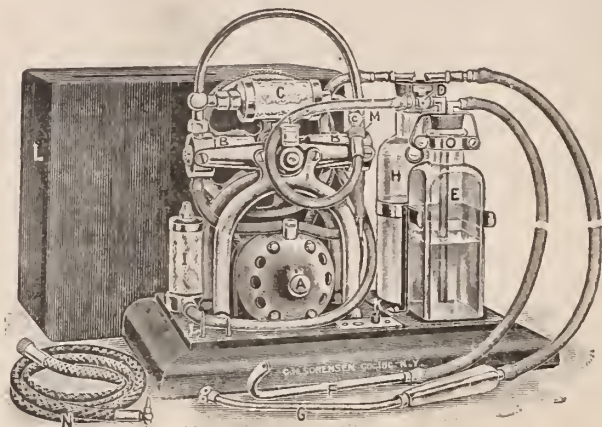
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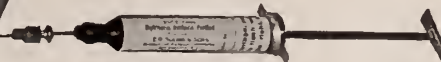
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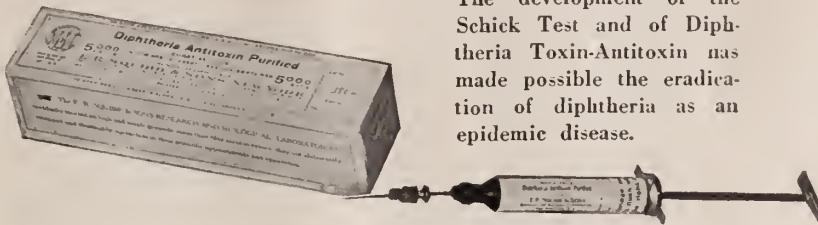
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